

ITEMS OF INTEREST.

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ORIGINAL COMMUNICATIONS.

A NEEDFUL EDUCATIONAL REFORM.

Dr. J. P. Broadstreet.

Discussion in Mississippi Association.

[Reported by Mrs. J. M. Walker.]

The intelligent coöperation of the patient is an essential factor in the preservation of the teeth, no matter how skilful may be the dental operator. This requires that the patient be made aware of the importance and needs of those organs.

The principles of physiology and hygiene are taught in our schools; but while page after page of the text-books is devoted to the eye and ear, comparatively nothing is said about those very important organs, the teeth.

In the dim and distant past, when man lived close to nature, his physical condition was very different from what it is to-day, when we are called upon to meet emergencies, and to give battle to the evils of civilization and heredity as we find them.

Nature's laws have been violated; the priceless pearls with which our forefathers were endowed have been treated with ruthless contempt; we are the victims of dyspepsia and many other physical ills attributable largely to defective mastication.

Through the text-books of the public schools we reach the children, and through the children we must educate the public. In that way only can we reach them and administer to their wants successfully. We must not rely on the medical profession to furnish this literature, but must join our efforts with theirs and, as brothers united, meet the foe; and success will crown our efforts.

The subject of "How to Educate the Public," was discussed at some length. Dr. Frank Smith advocates addresses to the school children on dental hygiene. Professor Dale was requested to outline the plan adopted by the Tennessee State Association, but replied that this plan was not yet fully matured, but would probably be given out at the coming annual meeting.

Dr. Walker suggested the appointment of a committee to wait on the superintendents of education and impress on them the importance of the subject. This might eventuate in the Association sending out duly authorized lecturers to address the schools.

Dr. Holland thought it would be difficult to impress its importance on school children. Lessons in physiology and hygiene are compulsory, but he doubts if many of them derive any real practical benefit from them. The real thing is to educate the mothers; they will educate the children when once they are properly informed themselves.

Dr. West replied that it is not with the mothers among our patients, or their children, that the trouble lies, but with the masses outside of our regular patients—those who never come to the dentist except when driven by pain, with the teeth too far gone to be saved; those who bring their children with abscessed sixth-year molars, ignorant that they are permanent teeth. They can only be reached through the children in the public schools.

He spoke of the importance attached by even very little children to what "teacher" tells them; they repeat it when they go home, and are more impressed by it than by home lessons. If it were made the duty of kindergarten teachers to look after the cleanliness of the teeth, as they do the face and hands and fingernails, a great good could be wrought.

Dr. Martin spoke of a little leaflet which he formerly had printed and distributed, entitled "Questions Answered by a Dentist at the Chair," which he believed had done much good.

Drs. McIlhenny and West spoke of the value of the little book entitled "Letters from a Mother on the Care of Children's Teeth," in the saving of time in answering questions and giving information at the chair.

Dr. Walker said that while that little book was excellent for the purpose for which it was designed—namely, the education of mothers—we also need something which can be placed in the hands of our young lady patients, and also simple lessons for the little children.

Dr. Holland said that one important thing to teach our patients (and they will teach others when they have learned the lesson themselves) is the comfort derived from the habitual use of floss-silk in cleaning the teeth. Formerly, when the file was used, and great spaces made between the teeth, the tooth-pick may have been effective; but now that we seek to restore nature's form to every tooth, floss-silk is the only thing that will do the work. Tell them to procure the flat, round machine bobbins,

wind one full of floss-silk and carry it in the pocket-book. They will soon become enthusiastic in its use.

Dr. Hinman remarked that it always felt like a big silver half-dollar in the pocket, and that was a very comfortable feeling to have, aside from the comfort produced by the use of the floss-silk!

HOW TO SECURE PAPERS AND INSURE PROFITABLE DISCUSSION IN OUR STATE DENTAL SOCIETIES.

Mrs. J. M. W.

The time-honored plan of having the whole field of dentistry divided up into a number of sections, each section in charge of a committee, the chairman of which is supposed to prepare or to secure papers bearing on the subjects embraced in his section, having proved rather barren of results in the Mississippi Association, the President, Dr. T. C. West, in his annual address (1896) suggested a plan which was adopted, and which promises well. By the new method, which is to be placed on trial the coming year, the President, in the early part of the meeting, appoints a committee of three, whose duty it is made to select subjects, not less than three nor more than five, for discussion at the following meeting—the subjects to be announced before adjournment, thus giving all the members of the association the year in which to read up, think about and prepare themselves generally for the intelligent discussion of the subjects which are to be brought before the association at the following meeting. It is also made the duty of the committee to correspond with both active and corresponding members of the association, those deemed most competent to handle the subjects selected, and secure an essay on each of the subjects, and also to secure a proper opening of the discussion of each subject by definite arrangement with men who will be specially prepared to present the subject in its various aspects *pro* and *con* the positions taken by the essayists. Brief volunteer papers from members of the association on the selected subjects will also be in order, while all will be expected to take part in the discussions.

It is hoped that in this way light may be thrown on obscure points, mooted questions be settled, the best methods set forth, and definite conclusions reached.

FITNESS FOR THE DENTAL PROFESSION.

Dr. G. G. Brock.

In the history of every young man there comes a time when he must decide what shall be his life work. The period in which this decision is made is a critical one, one fraught with the greatest consequences for weal or woe. A happy decision is a fortune. The one great mistake young men make is, they do not use good sense in judging of what they are good for. They aspire to things pleasing to their ambition, and not to those to which they are adapted. I do not think it exaggeration to say that fifty per cent of the applicants who gain admission to our dental schools are mentally or morally unfit. I make this assertion after closely observing college tactics for three years. If one college "assumes a virtue" by refusing admission to one disqualified, he never fails to be taken into other schools of like standing. As a rule, entrance examinations for admission to dental colleges are simply a delusion and a snare. I had the pleasure of being present at an oral entrance examination, given by an officer in one of our university dental schools, to a man about forty-three years of age, who hailed from the most wild and wooly part of Kansas, where he had been serving humanity as a "cow puncher" and a tramp dentist alternately. He was asked two or three questions in elementary geography, none of which he could answer. He was asked what astronomy was, but he had never heard of it. He did not know the principles nor elements of arithmetic. He was admitted, on what qualification is a mystery. On one occasion he made the boast that he had shot his way out of more than one crowd, and his facial contour verified the statement. Yet he was placed on a level with those students who presented high grade teacher's certificates or diplomas from institutions of learning as evidence of an honest qualification to enter.

This case is, of course, an extreme one; but it is indicative. What can be the motive of a school to admit such scapegrace ignoramuses? It cannot be for the benefit of the applicants, for the faculties know they will be dismal failures in dentistry. It cannot be to "raise the standard of our beloved profession," for these faculties would not have them around their offices to clean their spittoons.

We must conclude that the tuition fees within the pockets of such applicants are really the only qualifications necessary. Have our schools become circuses where the only qualification required

is the ability to purchase tickets? It is not so much a question of what kind of men the schools are turning out, as what kind of men the schools are taking in. Writers may write, philosophers may philosophize, and casuists may give reasons; but not till this indiscriminate acceptance of applicants to dental colleges is abated may we expect the dental millennium to dawn and our calling take rank as an honorable profession.

DEVITALIZING PULPS.

Discussion in Mississippi Association.

Dr. Holland has had complete success in the painless devitalization of pulps by making a fifteen-minute application of oil of cloves previous to applying arsenic.

Dr. Walker (Pass Christian) stated that a recent patient of his, a practitioner of general medicine and surgery, had objected to the use of arsenic in a tooth because of subsequent results which had come under his observation—a solidification of bone from excessive calcification, producing pressure on the nerve filaments and often severe neuralgia. Seven cases had fallen under his observation, and he thought it might be a point worth investigating. He thought that possibly the condition of the maxillary bone shown by Dr. Creger might, in some cases, be the result of the use of arsenic. Dr. Walker cautioned against leaving arsenic in the tooth too long. Having seen in the journals the statement from an eminent practitioner that it made no difference how long it was left in; that if the patient was going to Europe he should not hesitate to seal in arsenic the day before he left and expect to find everything all right on his return; he (Dr. Walker) had in one case—owing to the circumstances in the case—left the application in a week, having applied it in a cavity some distance from the gum, and protected it carefully; but it had gone through either the foramen or the cementum, or both, and he had a severe case of otitis and necrosis, losing the tooth and the process, necessitating a bridge instead of the contemplated crown. He related this case of “failure” as a warning to others.

Dr. Martin (Yazoo City) thought the various results from the use of arsenic in the present day must be due to degeneracy through advanced civilization. In the early days of his practice he had fallen heir to the patients of early practitioners—before the days of dental colleges. He found the mouths full of dead teeth,

but which had never given any trouble and rarely had fistulous openings. They uniformly said that the old dentist had put in "something" which made the teeth ache for a little while, and afterward they gave no trouble. In those days they put it in and left it in, and it did not seem to do any harm. He had taken out hundreds of such fillings.

Dr. West had had a similar experience, finding under amalgam fillings in dead teeth a bit of cotton with something on it, which had rotted the pulp, but without causing any trouble.

To destroy vitality in the remnant of pulp tissue, which so often gives trouble to get rid of after the death and removal of the body of the pulp, Dr. Hinman uses trikresol, passed carefully down into the canal, followed by the use of a heated broach, burning the festers to a crisp. Dr. Martin uses crystals of trichloroacetic acid for this purpose. Dr. Frank Holland relies on the electric root dryer, or a hot Evan's root canal dryer. Actual cautery causes absolute anesthesia. Dr. West uses the fifty per cent solution of sulfuric acid, which makes the fibrils stiff in a few minutes, so that they are easily removed. To remove a pulp, he anesthetizes it with chlorid of ethyl, taking it out at once without trouble or pain. But this method is not always a success.

For root canal fillings, Dr. Frank Smith (Water Valley) uses points made of about one-half as much iodoform as paraffin or wax. A point is inserted in the canal and followed by the heated Evan's root dryer, which drives the wax into the tubuli. This is repeated till the canal is filled, and makes all solid. Dr. Walker uses points made of "dressing seal," moistened with creosote; the cold points inserted and followed by a blast of warm air and packed with cold instruments. Dr. Martin places a small disk of rubber dam on the broach, which lodges at the mouth of the canal as the broach reaches the end of the canal, and thus gives him the depth of the canal and proper length of point to use in filling. He has found Gramm's copper points the acme of desirability, but has only been able to obtain one box of them. They are used in connection with paraffin cones, a heated copper point being inserted and withdrawn till sufficient paraffin is melted in to fill the canal, when a copper point is introduced and left in position, completing a perfect filling.

The officers of the Mississippi Association for the ensuing year are: President, Dr. Frank Smith, Water Valley; Vice-President, P. H. Wright, Senatobia; Secretary, J. P. Broadstreet, Grenada; Treasurer, C. C. Crowder, Kosciusko.

SOLID CUSPS.

Dr. Cephas Whitney.

Proceed by removing sufficient material from occluding surface of tooth, providing there is any remaining, till a piece of metal, plate No. 27, placed on cut surface, will not interfere with occlusion. This refers to the minimum cut on grinding surface only, the buccal, lingual and proximal faces being prepared as usual. Take ordinary double-pointed drawing compass (small) to measure width of band, by placing one point a little below gingival border, and the other point at buccal occlusal edge. Use this on gold plate as a gage to scribe band, much like a carpenter uses his gage.

Get your circumference, and solder in usual manner.

After fitting band to tooth, level occluding edge with fine, broad, flat file, first getting your depth with excavator while on tooth.

Seal band, and with softened modeling composition placed in same, procure bite, being careful to have patient give you all the movements of the lower jaw as in grinding. A little experience is now necessary to trim this model neatly, from an esthetic, as well as occluding standpoint; it often being advisable to change its form in small details. It may be trimmed flush with the band on its sides. With wide No. 36 or finer saw, remove model by passing saw close to leveled edge of gold.

Place pattern, cusp side up, on glass plate, oil well, surround with paper or rubber ring and run the following composition over it to a depth of about three-fourths inch:

Plaster of Paris.....	6 parts.
Plumbago.....	3 "
Asbestos (grade 3).....	6 "
Soapstone (pulv.).....	1 "

On removing from the ring, the composition pattern may be lifted from investment by using a pin, having previously marked the thickest place. Dry out in Lewis case heater, or, if time is limited, carry to level, soldering pad, ball up sufficient gold, same karat as band, with blow-pipe, to fill impression made by pattern, and press quickly but evenly down with large-faced hammer. You now have a *fac-simile* in gold of your composition model. This solid cusp piece must be leveled on its flat surface till it is same thickness of pattern. This can be done by driving cusp side down into end wood, leaving out a little more than is sufficient to remove. The wood forms a grip, and you may now file, using an appropriate one with confidence.

The final stage is done with great ease and despatch, for, providing that you have followed instructions closely, you will find that solid cusp piece will fit leveled edge of band, coming out flush and neat at the margins. You have only to paint your borax on edge of band and flat side of cusp piece, adjust with wire or place in soldering tweezers, and solder with very high grade stuff, say two karats down, using only a small quantity.

Fine file, finishing bur, cuttle-fish, tripoli, rouge, "and there you are."

The apparent advantages of this method are these :

- 1st. Excellent adaptation for grinding food.
- 2d. Absence of any mass of inferior gold, only five or six pieces of high grade solder being used—a grain and a half for the largest crown.
- 3d. Freedom of solder running on to band, thus causing same to impinge on tooth.
- 4th. Generosity of grinding piece, thereby insuring a lasting surface, no holes appearing in a year or so from trituration, as in the ordinary crowns. A large molar crown made by this process weighing quite two pennyweights.
- 5th. Absolute reproduction of model, with all the fine lines. Superiority to method of driving a model into dampened asbestos, which is not only indistinct in detail, but the eminences, which are counter to fissures and depressions in model, never rise to fill same.

THREE RELIABLE STANDBYS IN DENTAL MATERIA MEDICA.

[Reported by Mrs. J. M. Walker, from Mississippi Association.]

Dr. A. B. Kelly (Yazoo City), read a paper at the recent Mississippi Association on the value of the three agents, arsenic, campho-phenique, and fluo-silicate of sodium, expressing the opinion that if limited to three medicinal agents out of the entire dental pharmacopœia, more could be accomplished with these three alone than from the exclusive use of any other three agents in use in dental practice to-day.

THE USE AND ABUSE OF ARSENIC.

The danger to surrounding tissues and the suffering inflicted by its improper application were clearly portrayed and the correct methods described.

CAMPHO-PHENIQUE.

The range of usefulness of campho-phenique is very great. For obtunding sensitive dentine, the relief of toothache proper, treating abscesses, and disinfecting pulp canals, for devitalizing pulps (by pressure and puncture), for medicating pellets of cotton for root-filling, for wedging, and for crowding out growths of gum and fungus pulps. It is thus adapted to meet a large proportion of dento-pathological conditions, and ranks as one of the most valuable medicinal agents in dental therapeutics. It is disinfectant, antiseptic, non-irritant, non-toxic, agreeable odor and taste, and does not stain.

FLUO-SILICATE OF SODIUM

has the advantages of being colorless, odorless, non-poisonous, non-irritant, prompt in action and persistent in effects, and withal, "cheap as dirt."

TARTAR ON CHILDREN'S TEETH.

Dr. John S. Engs, Oakland, Cal.

A form of tartar, hard and sharp, collects in small granules, just under the free margin of the gum. It is sometimes invisible, and by one unfamiliar with its nature would be passed unobserved. It is so irritating to the gums that they become congested and bleed at the touch of a tooth-brush. Some take this as an excuse for not using one, and thus add to the trouble. If we place a piece of blue litmus paper under the gums, we will find that generally the secretions are slightly acid. To this acid we attribute largely that form of decay so often found at the cervical border of the teeth, the first indication of which is a white line of disorganized enamel. In the early stages of this disease, free use of a soft tooth-brush and chalk is useful, the superficial decay and tartar having first been removed. We recommend in addition to this, some alkaline wash, preferably the aromatic spirits of ammonia with alcohol, to be used on a wet tooth-brush after using the chalk. The powder will polish the eroded surface of the enamel and, with the wash, counteract the tendency to acidity.

Dr. W. Xarin Sudduth calls attention, in a recent issue of the *ITEMS*, to the well being of children in California, and lays special stress on the good condition of their teeth. We regret to say that we have not found sound, resistant teeth in this locality, though conditions may be more favorable in other sections of the State. White decay is ever present here. This escapes the parents' eye,

and unless regular visits are made to a dentist, much damage results.

Only the other day we examined the mouth of a little girl for the first time, where not a speck of decay was anywhere to be seen, and yet the molars were badly attacked by this white decay. Something here acts disastrously on the teeth of the younger generation. Many of the local dentists say "it is the water." This seems improbable, for the water in this locality is charged heavily with lime, which should make it rather beneficial than injurious to the teeth. The large consumption of fruit would seem a more likely reason. At times we think the nervous tension under which many of the people live has much to do with it. A remedy would seem to be the more extended use of oxiphosphate of zinc as a filling for children's teeth. This will necessitate great courage on the part of dentists, that they may brave the prejudice existing against this material. Dentists will have to have more consideration for the future of their patients' teeth than for the immediate lining of their own 'pockets, and their patients must have a proper appreciation of their services as scientific men.

THE ADVERTISING DENTIST.

Abstract from the annual address of the President of the Mississippi Dental Association, 1896, by Mrs. J. M. Walker.

The value of the Code of Ethics lies largely in the restriction it places on the advertising of self. If the merchant or manufacturer desires the public to know of an article that he may have to sell, he advertises the same, and is perfectly justified in doing so. Then why, you ask, is not the professional man justified in doing the same? I answer, because in the one case the man advertises his goods, while in the other he extols himself. What can be more disgusting to the true professional spirit than the man who is guilty of this offense?

In the late Mississippi convention Dr. Walker, Master of Clinics, deserves special commendation for his thorough preparation. His assistants were Prof. J. A. Dale, Special Instructor in Crown- and Bridge-work, Vanderbilt University, Department of Dentistry; Dr. R. F. Holland, Professor of Operative Dentistry, Dental Department Southern Medical College, Atlanta; Prof. T. P. Hinman, Demonstrator of Prosthetic Dentistry, Atlanta Dental College, and other eminent clinicians.

DENTAL HEMORRHAGE.

Dr. J. Van Pelt Wicks, Brooklyn, N. Y.

By chance I tried carbolized rosin in hemorrhage. I do not pronounce it the "greatest styptic in the world," but I do claim it has never failed me.

As the result of experiment, this is the formula I prefer :

R. Pulverized rosin (common).....	3iv.
Carbolic acid (95 per cent).....	3jii.
Chloroform.....	3ji.

M.

Make a short, thick cotton rope, larger than the wound to be treated, moisten the end well with the compound and plug the cavity tightly. The bleeding will cease almost as if by magic.

Its adherence to the tissue in which it is placed makes it unlikely to be forced out of its place by the pressure of the blood.

After a wound caused by extraction of a tooth has been plugged with cotton for four or five hours, considerable pain ensues, caused by the pressure of the cotton; so I advise patients to remove cotton after a lapse of a few hours.

Besides being so valuable a styptic, carbolized rosin is almost a specific for toothache if caused by exposed pulp.

[Would not carbolized rosin be good also as a covering for exposed, or nearly exposed, pulp before cement filling; also, for sensitive dentin?—ED. ITEMS.]

A platinum loop placed in a tooth socket and used as an electric cautery will often stop a hemorrhage.

FILLING LOWER THIRD MOLARS.

H. Otis Logue, D.D.S., New York.

An annoying operation to successfully perform is filling a lower third molar that cannot, for half a minute at a time, be kept free from saliva. Such a case presented in a young lady, of highly nervous temperament, whose flow of saliva was excessive. Placing of the dam was impracticable, and napkins placed in the mouth would almost immediately become saturated. This annoyance was overcome through the action of sulfate of atropin, a dose of which ($\frac{1}{120}$ grain) I had her take three-quarters of an hour before her next appointment. At that time I found the mouth very dry, though not uncomfortably so. The salt of atropin has a much better effect on the secretion than the ordinary alkaloid. Its manifestation lasts from four to five hours.

THE CONSERVATIVE VALUE OF THE PLAY-IMPULSE.

Irving C. Rosse, M.D., Washington, D. C.

Some years ago, while helping to write the surgical history of the late Civil War, I had occasion to study, among other things, about ten thousand cases of fractures of the skull. Needless to say that after several months' application I found myself becoming morbid; the sight of any broken object, as a fractured glass or a flag-stone in the street, instantly suggested visions of all sorts of head injuries with their sequences of dizziness, epilepsy and paralysis; while the hypnagogic hallucinations that usually precede sleep were more or less tintured by these notions.

Acting on the principle of doing the most frivolous thing I could think of to offset this condition, I immediately entered the swim of the gay world, and turned my attention to athletic sport. The effect was soon restorative, and led to some of the reflections that form the burden of this paper.

Old and common hackneyed similies are often none the less condensed propositions of important practical truths bearing on the subject in hand. For instance, the bow shoots all the better for being unbent at times, and we all recognize the wisdom and propriety of the homely adage, "All work and no play makes Jack a dull boy," and the little nonsense now and then is relished by the wisest. So why should not we with a reflective object put aside for a while the study and contemplation of neuropathic conditions, and the dismal and discouraging cases afforded by the decay of the nerve elements, and turn to some of the causes precreant and conservant which concern the well-being of the next generation, and enable us to preserve from decay or injury, within reasonable limits, the existent of health the present?

In studying the comparative physiology of the sentient organism, we find the play-instinct in various animals as the zoölogical scale is ascended. "The ludicrous performances of spiders is more suggestive of incitation than of any other imaginable purpose," says Romanes, while no less a person than the illustrious author of the "Descent of Man" writes with fulness and particularity on the love-antics of birds, and others since his time have commented on the play-impulse in discussing the theory of natural and of sexual selection, which Darwin says acts throughout all the higher division of the animal kingdom.

We recall from childhood days the skip and play of the gay young lambs that our primers used to tell about, as well as the

rompish sports and the festal pleasure of balls, routs, and parties occurring in the heyday of life and making red-letter days in our career, which go to show the existence of an impelling force inciting to the performance of actions not the result of reflection, and manifesting themselves in the form of sport, frolic, gambol, recreation, pastime, or amusement.

Primitive tribes show the same disposition as ourselves to yield to the deep-planted instinct of play and amusement. Many of their forms of pastime and recreation differ from ours only in detail, being in fact only different forms of the same tendency. During a sojourn among the Eskimo of Bering Strait, and the Chuckchis of Arctic Siberia, I observed the game of football. The Duke of Wellington said Waterloo was won on the ball grounds of England. The Chuckchis are the only tribe of Northern Siberia who have not yielded to the Russians, and the existence of football among them may be looked on as suggestive of the manly pastimes of a vigorous race.

In no people perhaps is the play-instinct more apparent than in the Japanese. Their country has been called "the play-ground of the world;" and, aside from being the most light-hearted people, recent events show their pluck and manliness to be worthy of admiration. It seems unnecessary to say more to justify the position that the play-impulse in the race is one of the motor activities evolved from the central nervous system, and that such manifestations of it are not only essential parts of life, but things that have a tendency and make life worth living.

The question of relative longevity of English and American public men was investigated some time ago by my friend, Dr. Charles K. Mills, of Philadelphia, who stated, in a lecture at the Smithsonian Institution, that the average usefulness and longevity of English public men exceeds that of American by ten years. Most men in public life in England are among the best and keenest sportsmen. Imagine the effect on his constituents of one of our hayseed senators in a pink coat, riding to the hounds, or frequenting the golf links with the British ambassador.

The educational, hygienic and even curative advantages of aquatic sports, more especially swimming, are beyond question. Aside from being an aid to physical development, the acquirement and exercise of pushing angry waves aside, in addition to accrued physical benefit, goes a great way toward strengthening self-possession and contributes more than any other manly pastime to the cold-blooded quiet and absolute presence of mind which enable us to avoid or conquer danger or lend ourselves to an act of devo-

tion. I may say, I trust with pardonable vanity, that through knowing how to swim I have jumped overboard from a ship in mid-Atlantic; plunged into the icy waters of Kotzebue Sound inside the Arctic Circle; and, better than all, have the proud satisfaction of saving a number of persons from drowning. It is lamentable in this practical age that so little heed attaches to the prophylactic and conservant value of swimming.

As a curative means this form of exercise merits high praise. Increased activity of the heart and lungs, the action of muscles not ordinarily used, the tonic effect of cold immersion, exposure of the naked body to the actinism of sunlight, and an exhilaration akin to flying, are conditions that conduce to the elimination of urea and the abolition of dyspepsia and insomnia, and are superior to the tent-cure, to massage, electricity, or drugs. Chorea and hysteria I have known to be cured after a course of swimming, and my experience as a neurologist leads me to recommend this form of exercise as one of the best adjuvants in the treatment of functional nervous diseases. If more educational attention were given to this form of recreation we should have fewer cases of neurasthenia, not so many flabby hearts and lungs, and a lesser number of torpid minds,

There comes, however, in the development of my subject, the question of that most innocent and delightful amusement afforded by sportive motion regulated by music. This special mode of manifestation of the play-impulse does not appear to have claimed much attention from either biologist or physician.

Just as long as mankind is endowed with the faculty of emotional expression so will its demonstration in various forms continue to manifest itself. As a rule, people must and will divert and amuse themselves, and nobody can prevent them. But in these days of excessive drive and overpressure, when undue waste of vital energy shows itself to the clinical observation of the neurologist in the way of various nervous and brain diseases, the question of averting or mitigating such mischief comes to us as a serious problem.

The obvious solution lies in the encouragement of all innocent recreations as a compensating factor in the phenomena of life. If we want to keep up the spirit of a race in which runs the blood of Robin Hood and the old Viking kings, the palestric element must enter into its pastimes. If we would hold the trident of Neptune and have a long run on the world's political stage, "the man behind the gun," as well as the political ruler, will be none

the worse for having been trained in the manly school of rude play and rompish sport.

Therefore, we should do all we can to further innocent sport and recreation that bring together men and women of the leisure class. In the light of more humanistic ideals of the present day, we do not admit the ethical cogency that amusements are wrong because they are worldly. We should strive to meet the people with a simple word or two expounding "the gospel of relaxation," with a view to make life better and make human actions abler, when prompted by the two great motor forces of life which incite in our subliminal-self the source and spring of all human actions, namely, the preservation of the individual and the continuance of the species.

ALLOY AND CEMENT FOR FILLING.—Procure good alloy and cement; mix the alloy as dry as will work well; press into a flat button, the thickness of a silver dime, for an ordinary cavity. Mix the cement so as to bring it to its stickiest condition; then, the cavity having been dried and kept so, fill with the cement, and quickly, before it begins to set, press onto it a plate of amalgam about the size of face of exposed cement. Press this plate into the cavity, allowing cement to escape slightly at all parts so far as practicable. With the ball end of very small burnishers perfect the union of amalgam to the edges of the cavity, and then contour by the addition of necessary amalgam. Experience with this plan for over eleven years gives me such faith in it that I have not filled a single cavity with amalgam without the cement for five years past, and I believe the time will come when the use of amalgam without some such lining of the cavity will be considered malpractice.

This use of cement saves much discomfort to the patient from making undercuts or retaining points; also from thermal changes, and other advantages enumerated above. *W. E. Driscoll.*

AMERICAN DENTAL ASSOCIATION.—The American Dental Association will hold its Thirty-sixth Annual Session at Saratoga Springs, N. Y., commencing at 10 o'clock A.M., on Tuesday, August 4th, 1896. *Geo. H. Cushing, Rec. Secretary.*

CURRENT THOUGHTS.

FURTHER NOTES ON AMALGAMS.

Dr. C. S. Tomes, England.

By spreading a thin layer of Welch's amalgam (which was used throughout the experiments because it is one of simple and known composition containing 51.52 tin and 48.48 silver) on a microscopic slide, he was able to examine its surface by illumination from above; it had a smeary semi-fluid appearance, with numerous spherical or hemispherical projections, which looked like, and doubtless were, beads of mercury. After a time these beads wholly disappeared, and their place was occupied by crystalline forms of metallic lustre. These crystals were sometimes cubes, sometimes six-sided rhombs, and, apparently, sometimes flat plates with six sides. From this it would appear that the process of setting in amalgam was one of crystallization. Further, if a slide which had thus become crystalline were heated, the beaded appearance returned, but the crystals reappeared in a few minutes, almost as soon as it had cooled. Again, if a slide of freshly mixed amalgam were heated, crystals appeared at once instead of taking some hours to form. Heat brought about the immediate setting of the amalgam, but not till it had cooled. The examination of four slides, one prepared with amalgam mixed so as to be just plastic, a second with more mercury, a third mixed with a considerable excess of mercury and then squeezed till only just plastic, and a fourth with the expressed mercury squeezed flat under a cover glass, showed no material difference in the size or appearance of the crystals formed, except with regard to the fourth, in which no rhombs appeared, but only foliaceous forms similar to those in which tin crystallizes. This crystallization is the reason why an amalgam ordinarily used gets a mat surface when it has set, though left with the burnish on it. The crystals on the slides were for the most part rhombs. The driest of the samples had not so lustrous a surface as the others, even the under surface which was in contact with the glass being less bright, and this was seen to be due to the presence of a certain amount of dull granular-looking material. The tendency of thin slabs to curl as they set which had been described by several observers could hardly be detected in any of them. These facts contained an intelligible explanation of the addition of old amalgam reheated and mixed with fresh amalgam, causing very

rapid setting of the whole. Not only did the old amalgam tend to re-crystallize as soon as it cooled, but it caused the new to do likewise. What was the practical application of these facts? In the first place, with any freshly mixed amalgam it was impossible to control the surface, however smooth it might be at first. It would soon become covered with small crystals, and this roughening of the surface was not a change in the right direction. But the crystals are not dead hard, and if an amalgam setting with inconvenient rapidity be burnished in, it remains smooth and to a great extent retains its burnish. Mr. Tomes was able to confirm Dr. Black as to what Dr. Black termed the "flow" of amalgams, *viz.*: that with a steady pressure of a strong spring a foreign body could be squeezed into an amalgam which would set without any apparent breakage occurring. In other words, the crystals are plastic, and the hard amalgam is capable of taking an impression to a degree of delicacy which it would not when fresh. Another point of importance was that the size of the crystals differ much in different amalgams. With regard to manipulation, if a fresh mix of amalgam be put on a hot plate and heated till it just begins to swell, it sets almost instantly, and can be used almost like fusible metal with a hot burnisher. If a fresh amalgam is to be used Mr. Tomes is of opinion that there is no method which in its results approaches that advocated by Dr. Bonwill, *viz.*: to squeeze the amalgam when in the cavity; in other words, using it fairly plastic and forcibly squeezing out the excess of mercury by means of little pledgets of wool or bibulous paper. In conclusion, there were one or two pitfalls to be avoided. Unless the cavity be a simple one, there would be a danger, if every part were not thoroughly burnished, of leaving crumbly places, especially under undercuts. Old pieces of amalgam being uncertain in their composition, Mr. Tomes advocated a specially prepared old amalgam. For the intelligent use of amalgams, it should be borne in mind that even when fully set it has a certain sort of plasticity.

Dental Record.

Professor Gray has recently adopted a very satisfactory method of using gutta-percha. After drying the cavity he saturates it with common resin cut in chloroform, and then presses in heated gutta-percha. It adheres to the wall like cement, and does not pull away. He has found it very satisfactory in the mouths of his own children, where he has the opportunity of observing it closely.

Dental Register.

GOLD FILLINGS.

F. H. Skinner, D.D.S., Chicago, Ill.

In proximate cavities separation is generally necessary. In bicuspid and molars the margins must be so cut that, after the filling is in, the line between gold and tooth structure will be self-cleansing, or at least easily cleaned with the tooth-brush, and so that this line will in no place come in contact with the neighboring tooth. If the cavity does not extend far enough toward the gingiva to avoid this latter complication, cut sound tooth structure enough away so that the cervical margin of the filling will be easily accessible with a tooth-brush, or will be entirely covered by the gum.

Take a proximate cavity of an incisor; take a pellet of gold about the size of Rowan's, three-fourths or smaller, if the size of cavity demands, and place over the linguo-gingival groove. With very finely serrated or smooth pluggers and small in diameter, with hand pressure gently press into the groove. This first piece is not condensed much. A second pellet of the same size is then annealed a little, and placed on the first pellet and condensed more. A part of this second pellet usually extends over the linguo-gingival margin, or down toward it. This second pellet should, with light malleting or hand pressure, be fairly well condensed. In this way pellet after pellet is placed in the cavity, completely filling linguo-gingival and labio-gingival grooves and covering the gingival margin. By the time this is accomplished there is no danger of any rocking or loosening of gold already intact. Each pellet of gold will now be placed so that it extends slightly outside of the lingual border, and so that each piece extends more and more toward the cutting edge of the tooth, or what our friend Dr. Woolley calls, "crawling the gold." Each pellet as it is placed should first be malleted against the wall of the cavity, with a small smooth or finely serrated point; then the part extending down over the lingual margin should be malleted against, or wrapped around the margin. For this, narrow, finely serrated foot pluggers, properly shaped to reach the required distance and angle, should be used, and all malleting should be done from the labial side of the tooth; for the lingual portion can never be properly built after the labial is completed, unless in irregularities. Therefore keep the gold well down and build the lingual wall complete and full as the filling progresses. Once the lingual wall fully covered and contoured, we have a very simple cavity which can be filled without difficulty, the only care being to thoroughly

condense gold against the walls and have margins well covered. For durability of finish the last few pellets of gold should be some of the various brands of sheet gold, or, better still, heavy rolled gold, say number thirty, and should be thoroughly malleted. The next step will be to grind nearly down to the tooth with stones or disks or diamond points, the labial and lingual borders. Then with narrow strips, so as not to cut off the contour, finish down the gingival border, and then the border near the cutting edge.

Now, to make sure there are no soft places in the filling, steel burnishers should be used. This done, the filling may be brought down to its proper shape with coarse strips, then use the medium strips, and last a very fine one; and to give it a final polish moosehide cones or chamois skin disks and rouge is used. As smoothness comes with high polish, too much pains cannot be taken in that direction. The filling, when finished, should be so contoured that nothing but the gold is in juxtaposition with the next tooth.

Review.

LIGHT IN VACUUM TUBES.

At the second day's session of the electricians' convention held at the Electrical Exposition, D. MacFarlan Moore lectured on "The Light of the Future."

The light of the future, according to Mr. Moore, is a glorified electric light, depending neither upon an incandescent filament in a glass bulb nor on a glowing crater between two carbon pencils. It is "nothing in a state of intense vibration," and the result is a brilliant purplish light radiating from long glass tubes.

Mr. Moore demonstrated the practicability of his invention—light without heat—before a large assembly.

Around the stage, suspended by wires from the ceiling, were a number of closed glass tubes, each about ten feet in length; each tube had been exhausted till only about one-millionth of an atmosphere was left. By means of a small electrical device, the few atoms in the tube were set rapidly vibrating and the hall was completely illuminated by the light which issued from the tubes.

In explanation of the phenomenon of light by inductive effect in vacuum tubes, Mr. Moore described the methods he uses. The vacuum vibrator is the nucleus of his invention. It consists merely of a spring fixed at one end and free at the other. To the free end, a small disk of soft iron is attached, and the center of the spring rests against a contact point. All this is inclosed in a small

exhausted tube. The only other apparatus is a small electro-magnet and a long glass tube. A current from the dynamo is passed through the coil of the magnet and then through the vibrator, the soft iron disk on the vibrator spring being placed above the magnet. The wires are attached to the two ends of the magnet coil and also to the two ends of the long glass tube. When the circuit through the magnet and the vibrator is closed, the small disk at the end of the spring vibrates with great rapidity and breaks the current in the vacuum with each vibration. This rapid vibration is communicated to the atoms in the long tube, and the result is a light.

Mr. Moore explained to the audience the different steps which led him so far toward the desired result, each step being illustrated by some piece of apparatus and the intensity of the light increasing with each step. The long tubes contain nothing, not even a wire, but each end is in contact with the two wires from the magnetic coils. This is all. And yet the tube becomes a rod of solid opalescent light, which shimmers and glows in the tube as the atoms oscillate under the influence of the rapidly disrupted current in the vibration. It will be remembered that on the opening of the exposition a frame of these tubes was so arranged in the gallery that Governor Morton, as he touched the key which set the machinery in motion, appeared framed in the beautiful ethereal light, while above him glistened the words "Let there be light."

Mr. Moore is about twenty-seven years old, and up to two years ago worked at the draughting table of a large electrical concern. He is a graduate of Lehigh University, and for years has been interested in mechanics and electricity. It is not more than eighteen months since he first showed to a few skeptical friends a little tube of two inches, from the ends of which he connected two wires to the terminals of the socket of an ordinary electric fixture, causing the little tube to glow with the purplish light he had so intensified.

N. Y. Tribune.

At Preston, on April 21st, Herbert Berry, sixteen, a pupil teacher, was summoned for assaulting three scholars. It was alleged that the defendant gave the lads the option of being caned or having their teeth drawn, and when they elected the latter, he performed the operation with his own hands. The defendant was fined £3 and costs in the first case, and the other cases were withdrawn on payment of costs.

SOLDERING.

Dr. H. J. Goslee, Chicago, Ill.

The essential elements of soldering are: The thorough removal of all oxidation from the surfaces to be united; contact or apposition of the parts; the use of a flux on the surfaces of both metal and solder, which permits the latter to flow readily, and of union between them, by preventing oxidation; and the heating up of the object to be soldered—whether it be in an investment or not—to or near the degree of heat required to fuse the solder, before any attempt is made to do so.

Now, the definition of solder, as we understand it, is a combination of metals which fuse lower than the highest fusing component part; zinc being mostly used in the ordinary gold solders as the baser incorporate, by which the fusing point of the mass is reduced and regulated, imparting also increased properties of flowing. Consequently, a 20-k. solder, for instance, will fuse lower than plate of the same karat, otherwise it would not be a solder; and yet there are some, I dare say, who would not think of using a 22-k. solder to unite plate of the same karat, while it may, of course, be done with perfect ease and to good advantage when two or three solderings are required, as by lessening the possibility of unsoldering parts already attached, during the subjection to subsequent soldering. This enables you to accomplish a desired result by using as high a karat as possible in finishing.

Perhaps paramount among the difficulties encountered in, or connected with, the soldering of plate or crown- and bridge-work, is the apparent unavoidable fracturing of porcelain facings; and while it now seems probable that the coming work of this kind may, perhaps, be done without subjecting the porcelain to the heat of soldering, "but by the method already in vogue, apparently to some considerable extent, of simply soldering the backings which had previously been perfectly fitted and adapted, in their respective or relative positions, and subsequently retaining the facings by means of cementing and riveting;" it is, at the same time, perhaps, just as well to consider for a moment the cause of the frequent checking of facings, for there seems to be no imperative reason why it cannot often be avoided, though we are aware that some of our best men do not hesitate to make the broad assertion "that few facings are ever entirely devoid of checks after soldering," and contend that if they are not noticeable at the time, they may be conspicuously so afterward.

It must be remembered that a porcelain facing in itself presents two substances—the porcelain or feldspar, and the platinum pins—each of which is affected entirely differently by the heat necessary to solder, the former absorbing and retaining the heat for a considerable time, and the latter, while absorbing it readily, gives it off or cools with equal rapidity. Consequently, when a tooth, properly backed, is to be soldered, too much care cannot be exercised in cautiously and evenly distributing the heat from the beginning of its application, so that the porcelain which is usually farthest away and covered or protected by an investment material, receives it in equal proportion simultaneously with the metal; otherwise the metal receiving the bulk of the heat first rapidly, through the medium of the platinum pins, conducts it to the porcelain before the latter is correspondingly and sufficiently heated to avoid uneven expansion.

Acknowledging this, then, to be one, and perhaps the main cause, it is evident that it can be avoided by so regulating the application of the heat that the investment, which is usually a poor conductor, receives the most of it, or entirely so, till the whole shall have reached a high degree, which, having come from the outside, as it were, must have been equally and evenly distributed; and furthermore, as a precautionary means, the platinum pins should always be cut off as close as possible to the backing, leaving enough remaining to split or rivet; for if left standing out straight or bent over on the backing, they must necessarily receive most of the heat from the blowpipe.

Great care is also necessary in the preparation of a facing to receive its backing, and in the perfect adaptation of the backing, that no overhanging edges of the metal be left on the porcelain, as this will invariably result in a fracture or numerous small checks along the edges of the facing so neglected, and due to the impingement on the porcelain. And of equal importance is the arrangement of the teeth in alignment, that sufficient space be left between them to allow physical change in the metal on cooling. After the soldering is completed, the utmost care should be exercised in excluding any draught of air, which may have a tendency to prevent the contraction of porcelain and metal taking place gradually. No attempt should be made to remove the case from the investment till this may have taken place and both are cool.

The extravagant and injudicious use of borax is another cause of numerous cracked facings, as it fuses lower than solder, and, owing to the expansion of the average investment material,

it runs over the edges of the backing on the surfaces of the porcelain, and results in fracturing by giving off its heat and contracting much sooner.

The use of perhaps the most commonly-used investment material, consisting of pumice stone and plaster of Paris, presents very objectionable features. It is a poor conductor of heat, expands very readily, and, unless protected by a ferrule of metal, or by wiring tightly together, or by being much larger in bulk than either desirous or necessary, it invariably cracks open or falls apart, rendering liable the exposure of the heated facing to the air, which results in fracturing. The pumice stone, like borax, fuses lower than the ordinary solders, and, if in contact, adheres to the surface of the teeth, and cools and contracts much sooner.

When checks or cracks afterward occur it is generally due, not to the fracture having been there since the tooth was subjected to the soldering, but more likely to negligent or poor adaptation of its backing, rendering in itself no protection whatever to the facing from the continued strain brought to bear on it in the force of mastication. I think it is safe to say that there are not one-fourth of the facings used, whether they be on plates or crowns or bridges, that are properly protected to withstand the ravages of this powerful force.

To see a facing badly checked or entirely broken off of a crown or bridge after it has been worn for some little time is by no means an uncommon occurrence with most of us, but to attribute this to the soldering seems hardly consistent, when, as a usual thing, all we have to do is to examine the broken facing to see that the facing has had little or no protection along the cutting edge. When we consider the force to which a facing is subjected in masticating, and remember that it is retained by means of its attachment in a position both rigid and unyielding to the slightest extent, how can we overlook so important an essential as providing for the proper protection of them against strain? This can be accomplished with very little more work and much more gratifying results.

Crown- and bridge-work would prove less laborious and more satisfactory to both dentist and patient, if this evil were avoided.

To accomplish this the facing should first be ground to assume its proper position and fit accurately, after which the lingual portion of the cutting edge should be so ground as to produce a sharp but smooth angle along the edge, the bevel extending to about one-half the distance to the pins; then the lateral sides should be slightly ground to give a smooth marginal edge

to which the backing may be finished nicely and without danger of overhanging edges. Use preferably pure gold from twenty-nine to thirty gage, and, after burnishing to fit nicely and leaving a small margin of surplus around the edges, it then should be removed and reinforced with plate or high-karat solder to the desired thickness. After it is sufficiently reinforced to insure strength, replaced on tooth and riveted, the smooth marginal edges will enable it to be finished down to a fine line, leaving a joint, when finished, so close as to render it practically impervious; but in dressing it down along the cutting edge, the file should be passed on a parallel line with the face of the tooth, which will leave the thickness of the metal covering and protecting this edge, and which can be left of a uniform and desired thickness to receive the force of mastication and relieve the porcelain of all strain.

Another great annoyance, and of not uncommon occurrence, is the tendency of solder to ball up, and which is invariably caused by trying to make the solder to flow before the parts to be united are sufficiently heated. It is imperative to first gradually raise the heat of the higher fusing metal to or near the degree at which the solder will fuse. After accomplishing this, by applying the solder and then directing the flame on both the surfaces of the parts and of the solder having previously been fluxed with a thin paste of borax, no difficulty will be experienced in causing the solder to flow nicely with but a small pointed flame from the ordinary blowpipe, and without any exertion whatever. But if, on the contrary, the flame be directed on the solder before the parts to be united are sufficiently heated, it will fuse within itself and ball up, and if much time be thus consumed the baser alloy or zinc will be burned out, requiring, in consequence, a greater degree of heat to cause it to flow than otherwise, and as the depletion of the zinc will, to some extent, increase the fusing point and decrease its flowing properties, the liability of fusing or burning the object to be soldered is also increased.

The parts should be fluxed before heating up, and it is always necessary to flux well the surface of the solder before attempting to control it, as containing zinc renders it so easily oxidizable, it will not flow or cannot be managed unless it is properly fluxed. The borax should be mixed into a thin paste and applied with a small camel's-hair brush, or similar means, as the quantity used can be governed better and its application be made only where it is needed, thus avoiding the common and by far too generous use of powdered borax, which, as has been previously

stated, increases the danger of cracking the teeth, renders the solder more difficult to handle, and oftentimes causes the surface of the work to be freely covered with small pits.

For investing there are perhaps several substances which, in conjunction with plaster, possess all the desired qualities and advantages; however, we are inclined to use and give preference to the use of a material composed of ordinary fine white lake sand, one-third, and plaster two-thirds, believing it to meet the requirements as well as any and much better than some, for being considerably coarser than many, it conducts the heat better, does not expand so readily, and the sand fusing so much higher than pumice-stone avoids the previously mentioned objectionable liability in connection with that substance.

The investment should be no larger in size or bulk than merely sufficient to cover and protect the teeth and retain the parts in position, and should be protected from expansion as much as possible by a narrow rim or ferrule of metal, or by being poured on to finely interlaced wire netting.

Where the parts to be soldered are not in contact one with the other, as frequently occurs, the spaces between may be filled in with gold foil to good advantage, and thus bridged across, render the work of uniting them very simple; or with the use of a pointed steel instrument, the solder, when just beginning to fuse, can be pulled or coaxed over and across such spaces with ease.

In coaxing and in the controlling and management of solder, it is of much material assistance to note that gravity be favorable, for however skilful one may become, it is difficult to cause it to run up hill against its own weight; consequently, in uniting a piece of two or more teeth for instance, and especially if it be for the anterior part of the mouth where the curvature is greater, it is necessary to change the relative position as you progress, that the solder may run where it is required to remain when fused.

Another not unusual occurrence of no little annoyance in the construction of a plate or crown, is the appearance of small holes in the metal during the process of annealing and swaging, and which is usually caused by a baser metal on the surface of the gold, usually tin or lead, which, fusing so much lower than the gold, becomes incorporated at its point of contact when being annealed. Treat the metal to the acid bath after each swaging, being careful afterward to thoroughly neutralize the acid by the free application of water before again attempting to heat or solder.

When the burning of such a hole does occur, or when one presents itself during the process of finishing, it can easily be ob-

literated with the use of a solder of the same karat as the gold by sweating over it a piece little larger than the hole from the side not interfering with the fit or adaptation. It should not be the attempt to fuse the solder till it flows, but by first thoroughly cleaning and removing oxidation ; investing if necessary to prevent unsoldering or for protection of porcelain ; properly fluxing the surfaces of metal and solder ; heating to a red heat and then simply wilting or sweating the solder down to its place by the use of a small pointed intermittent flame from the blowpipe only till it becomes firmly attached without flowing perceptibly, then ceasing ; the desired result is accomplished with comparative ease and very little danger.

If no investment be used, or necessary, or even in cases where it is required, a precautionary means is frequently necessary to prevent the unsoldering of the parts ; by covering or coating such surfaces with either a solution of whiting or of plumbago, carbon or crocus, any of which will relieve all danger from that source.

I am of the impression that so far as soldering is concerned, the use of the bellows is rarely if ever indicated, and should in fact be avoided ; for the amount of heat necessary, which is usually very much overestimated by the way, cannot be so well regulated, and more harm than good is liable to result in consequence. A greater heat than the combination mouth governed blowpipe will give, if properly applied, is very seldom required, but to blow a continuous flame is a very valuable accomplishment for the dentist doing gold work, and can be learned by most any one devoting to it a little perseverance and application.

Dental Review.

Three months ago I had a patient with a lower second molar with a large crown cavity lingual surface. It was almost broken away to the gum line, and a large opening through the bifurcation, where the gum was exposed in cavity. I removed all decay, then used a piece of 22k. gold, 28 gage, and cut a piece to cover bottom of cavity. Then placing gold on a piece of lead, and taking a large shot, I drove it down to make a depression deep enough to have baring only on the sides of cavity and none on gum in center of cavity, fastening gold disk in place with cement to keep it from moving while packing in amalgam. It is doing well.

C. D. Hertz, Dubois, Pa.

THE HOUSE WE LIVE IN.

This is the advice of the late lamented Prof. J. M. Coates: "Think deliberately of the house you live in, your body; make up your mind firmly not to abuse it, eat nothing that will hurt it; wear nothing that distorts or pains it; do not overload it with victuals or drink or work; give yourself regular and abundant sleep; keep your body warmly clad. At the first signal of danger from the thousand enemies that surround you, defend yourself. Do not take cold; guard yourself against it; if you feel the first symptoms, give yourself heroic treatment; get into a fine glow of heat by exercise; take a vigorous walk or run, then guard against a sudden attack of perspiration. This is the only body you will ever have in this world. A large share of the pleasure and pain of life will come through the use you make of it. Study deeply and diligently the structure of it, the laws that should govern it, and the pains and penalties that will surely follow a violation of every law of life or health."

Indiana Medical Record.

THE USE AND ABUSE OF THE BRAIN.—In the course of an address on this subject, Dr. Wm. A. Hammond recently said: "Anxiety causes more brain disorders than any other agency I know of, unless it be love. Many jokes are made about the gray matter of the brain, but I will say right here that I have a great respect for the gray matter of the brain. There is no higher organism than that. It is the grandest organ in man, and were I ever to worship anything, it would be a portion of the gray matter of the brain. It is well for us to know that the emotions cause more unhappiness and crime than any other function of the brain. Human beings are governed by their emotions, and it is well that they should be, though it is the emotions that wear away the brain, and not honest, intellectual work. Very few people suffer from intellectual work. I do not recollect ever having a mathematician for a patient. It is not intellectual work that causes nervous dyspepsia, but the emotions, such as anxiety, fear, sorrow, and love. I consider that eight hours are sufficient for a man to use his brain, because if he exceeds that time he becomes nervous and fretful, and an exhaustive brain is an irritable brain. You may not feel the evil effects of the stress of brain work at the time, but you will when it is too late. The men that work at night with their brains expose themselves to danger and death."

Dental Register.

TREATMENT OF ABSCESED TEETH.

Dr. M. L. Rhein, New York.

Where the roots are straight, no better means of removing the contents of the diseased pulp-periphery of the root itself can be found than the Morey drill. The bad odor attached to the operation of drilling root-canals is due entirely to the attempted performance of this operation in roots where it is a mechanical impossibility. In such, having removed with the broach as much of the pulp as possible, we must then depend on chemical means. Two excellent agents have been introduced within the last few years—a combination of potassium and sodium and a 50-per cent solution of sulfuric acid. Either accomplishes the destruction of all the soft tissue leading to the very end of the root, and by either it will be found possible to reach the very end of every canal. The canals should then be thoroughly washed out by an injection of a powerful antiseptic solution, say a 1-500 solution of bichlorid of mercury in hydrogen peroxid. This should be injected into the canals of the tooth with considerable force, by means of a hypodermic syringe with a platinum needle. Where pus has already begun to form, the forcing of a portion of this solution through the foramen of the root is productive of considerable pain to the patient, lasting, sometimes, for one or two hours. On this account it has been generally condemned, and efforts made to cleanse the canal without using sufficient pressure to drive through the foramen any of the solution. This I believe to be a serious error. It is far preferable that the patient should suffer from the powerful effects of this antiseptic coagulating fluid on the tissues of the apical space, than to run the risk of leaving some minute portion of infiltrated purulent matter, which might proceed to further development of an abscess. I have seen many alveolar abscesses aborted by this method of treatment, where considerable pus had already been evacuated. The canals should now be thoroughly dried, and a dressing of Ceylon cinnamon oil packed therein, hermetically sealed with gutta-percha, and allowed to remain till all symptoms of irritation have disappeared.

In other forms of acute abscess, where the infiltration of pus has already extended to some depth into the alveolar process, or where an external sinus has already been established, it is necessary, after the end of the root has been reached, to enlarge the opening at the apical point and thoroughly cauterize the tissue in the apical space by means of the same chemical agents used to

reach the end of the root. Where the external sinus already exists, the injection of the bichlorid solution should be so thorough that the fluid will make its exit through the external sinus.

Beware of over-treatment. At the very same sitting, the canal having been thoroughly dried, the end of the root should at once be hermetically sealed by chloro-percha, and the patient instructed in the use of a proper antiseptic mouth-wash. No further operative interference ought to be necessary.

Where, however, no external opening has been obtained, and we have infiltration of pus extending to the alveolar tissue, it is necessary to move with more caution. Make a similar dressing of cinnamon oil packed in the roots, and renew this once or twice, till certain that every vestige of the purulent infiltration has been destroyed.

Cosmos.

CHEERFULNESS.

Cheerfulness, first of all, is a duty a man owes to himself. Any physician will tell you that one of the best preventives of disease is cheerfulness, and one of the best curatives when disease has set in, is that happy and hopeful disposition that feels even sickness may be for the best. Such a man will be restored to health under the most adverse circumstances, while the strong but despondent and melancholy disposition will weaken and fade away. All the doctors in the land cannot save a man who has not energy enough to will his own existence. Thinking of this, the great English historian said that cheerfulness was worth more than five thousand pounds a year.

Moreover, a man owes it to his family to cast trouble away when he comes to his home. He is a selfish being who, having trouble in his trade or calling or profession, always brings his trouble home for the purpose of making every one else miserable. There is no bravery or manliness in that kind of thing, no thoughtfulness for others' happiness, no trust in God that all will be for the best. The one at home may also forget and worry the already tired man with complaints beyond his power to change. It may, therefore, be set down as an axiom that home happiness depends on the woman meeting the man with a pleasant face, though her body may be weary and her heart sick; it depends on the man having a kind and a cheerful countenance, though that day all had gone wrong, and he had found, or thought he had found, that all men were liars.

Hygienic Gazette.

ACUTE ABSCESS OF TEETH.

Dr. M. L. Rhein, New York.

Presuming that the causes and symptoms of this form of the disease are familiar to you all, I desire to call your attention especially to the necessity for the most careful and thorough treatment pursued under the strictest antiseptic conditions, if it is to be hoped that a radical cure will be accomplished. If these precautions are followed with any ordinary common-sense treatment, a cure is readily effected. It is, however, unfortunately true that the graver form of this trouble—chronic alveolar abscess—results more frequently from a lack of attention to these precautions, namely, from improper dental work, than from any other source. A large portion of the treatment is necessarily the same, whether we have an acute stage of the disease or the chronic form.

It frequently falls to the lot of the dental practitioner to be placed in the happy position of being able to prevent an acute attack of alveolar abscess, and I shall therefore first take up your attention with this phase of the subject.

One of the errors commonly made in this disease is to delay operative treatment till pus has thoroughly formed and an external fistula is obtained, where frequently prompt antiseptic and surgical measures would prevent the threatened attack. With our present knowledge of the value of the more powerful germ-killing remedies, there remains no excuse for any delay in opening into the pulp-chamber of any tooth at any stage of this disease, or of a threatened attack of the disease.

The first step in the treatment of a tooth threatened with an alveolar abscess—and I may as well say in one where the disease exists in any stage—is the adjustment of the rubber-dam over the diseased tooth, to preclude the possibility of the entrance of any of the germs in the oral secretions into the pulp-chamber. This should be the invariable rule.

The opening into the pulp-chamber should always be made on a direct line (or as close to that as possible) with the end of the root in single-rooted teeth, or on a line as far as possible commanding the ends of multi-rooted teeth. Do not fall into the error of utilizing an already established proximal cavity for this purpose. Many teeth have been ruined in this way, because the operators for the time being thought they would save themselves the trouble of cutting through solid enamel. Do not depend on a small opening, but make it so large that there will be no question of an unobstructed view of the root-canals. It is far safer to re-

move a large quantity of healthy tooth-structure which can be perfectly restored by suitable filling-material, than to be compelled to operate in root-canals entirely by the sense of touch. The openings of the canals themselves should be enlarged by the use of suitable drills. The contents of the canals should then be thoroughly removed, and by the careful performance of this portion of the operation is determined the successful prevention of the onsetting attack, or the cure of the disease, if it already exists.

As to the method of removing pulp-tissue in root-canals, it would be folly to lay down any one individual form of practice. The judgment of each operator must guide him in the choice of the best method for each individual case. There is no occasion for dilating on the necessity of a thorough removal of the pulp-tissue and the hermetical sealing of the ends of the roots, as well as of the canals themselves. Many cases of what, within a few hours, would result in an attack of acute abscess, present themselves to us before any purulent matter has formed. The patients are simply suffering from the intense pain that generally accompanies the oncoming of such an attack, and prompt antiseptic treatment, undertaken at an early stage, will generally abort the attack. The treatment pursued is the same as if pus had already formed.

Cosmos.

CUTTING THE TONSILS.—There seems to be a general impression that there is little or no danger attending the removal of the tonsils, and instruments for this purpose are found in the possession of every practitioner in the land. An eminent surgeon declares that removing the tonsils is an operation attended with a great deal of risk. One reason for this seems to be that in cutting there is danger of approaching near the large arteries, or, at all events, tapping small veins that may cause alarming hemorrhage. This physician gives an account of the removal of the tonsils from the throat of a boy, when he was obliged to hold the parts with his fingers for several hours to arrest the hemorrhage that threatened the youth's life, as he had no appliances at hand for checking the hemorrhage, which was entirely unlooked for. He says it is as well to be very wary in cutting the tonsils at all, and not to operate on them unless it is absolutely necessary, and then only remove a sufficient surface to relieve the mechanical obstruction caused by their enlargement.

AN APPARATUS FOR DRAINAGE.

Dr. M. L. Rhein, New York.

About four years ago there came under my hands for treatment a young lady, for whom I did considerable work before her mouth was placed in complete order. Previous to coming under my care she had considerable dental work done in Paris, and I found several teeth devitalized, the pulps not having been removed. About the end of the root of the right upper second bicuspid there was an abscess discharging freely. After particular care having been taken to thoroughly fill the root of this bicuspid to the very end, I informed her that it would be impossible to make a radical cure of this abscess without amputating the end of the root, and that if this were not done I would prefer the removal of the tooth rather than have it remain in position, especially taking into consideration its close proximity to the antrum.

She never gave me the opportunity of operating on this root. In fact, for two years I lost sight of the patient till about four or five weeks ago, when I was hastily called in consultation by her physician. She had been married in the interim, and was then pregnant about five months. When I saw her, there was a temperature of over 102° F., with a very considerable swelling in the region about the right eye. Referring to an old diagram of her mouth, showing exactly what I had done, I was soon able to diagnose a condition of antral abscess. I noticed that the bicuspid had been left by me with a large contour gold filling extending around both proximal sides of the tooth. I now saw that an amalgam filling had been inserted in the center of the crown. She vigorously denied, at first, that she had been under any other dental treatment since I had seen her last, but after pointing out to her the convincing proof shown by the amalgam filling, she confessed, with a little chagrin, that on feeling some irritation from the old abscess, she had consulted a dentist who had been recommended to her especially for the cheapness of his fee.

The tooth was extracted, and this was followed by a profuse discharge of pus. The opening into the antrum was small, taking only a fine probe. The dentist to whom she applied, instead of endeavoring to discover what was the condition of the interior of the root-canal, drilled through the center of the crown into the canal, striking there the oxiphosphate, covering the gutta-percha which sealed the canal. Endeavoring to drill through this, he

proceeded but an eighth of an inch before he penetrated the side of the root, and then completed his operation by forcing a mass of pink gutta-percha fully half an inch through this artificial opening. The result of this increased irritation was a weakening of the floor of the antrum at this point, and the subsequent penetration of purulent germs into that cavity. My original filling can be seen reaching to the very end of the root.

Having on my hands a patient pregnant about five months, with a condition of chronic empyema, it was impossible to perform the surgical operation necessary for a cure of this condition, yet it was necessary to keep the antrum aseptic and clean. Syringing out the antrum through the fistula was painful.

As a substitute for syringing my associate, Dr. C. L. Andrews, materially assisted me in devising and manufacturing a little apparatus which I successfully inserted in her mouth, and by means of which the antrum was thoroughly cleansed without any inconvenience or annoyance, and by means of which she will be able to take the proper care of it daily for any length of time to come.

The apparatus is a curved platinum tube, which fits perfectly into the alveolar socket, and is made a little larger after entering the antrum, so that the tissues will readily hold it in position, and it cannot easily be withdrawn with the apparatus that prevents the oral secretions from entering the tube. At the same time, the open ends of the tube at the gingival border flare over both the buccal and the palatal side of the process, so that it cannot be pushed up into the antrum.

In this tube is fitted an ordinary canula, with a knob soldered around it at the point where it should cease to enter the tube. To this canula is attached rubber tubing, with a stop-cock close to the canula. The tubing is attached to a glass jar suspended in a metal frame. By placing the cleansing solution in this jar and elevating it to the proper height, we could painlessly wash the antrum in the most thorough manner, the fluids leaving by way of the right nostril. This is done so easily that the patient will be able to cleanse the antrum daily as frequently as may be desired. To the open end of this tube has been accurately fitted a platinum cone-shaped nipple, which acts as a positive stopper to the tube. This nipple forms part of the under surface of a strip of platinum, to which is attached a porcelain tooth, and this in turn is held in perfect juxtaposition by means of clasps around the molar and first bicuspid, and with metal rests attached alongside of these clasps, and holding on to the occlusal points of the molar

and bicuspid, so as to prevent the apparatus pressing upward on the gum.

The patient will use a cleansing solution of boracic acid and glycerol, and if the thorough cleansing by this method does not bring about a positive cure, a thorough surgical operation will be made.

Cosmos.

CONTROL OF DAYLIGHT FOR DENTAL OPERATIONS.

Dr. Van Orden.

An opaque roller-shade, working from the very bottom of the window and excluding all stray rays of light up to its upper margin is the desired means. One who learns the value of this lower shade will scarcely exceed the bounds of reasonableness when he places it as second only to the appliances with which operations are performed. On one occasion we became afflicted with inflammation of the eyes and consequent photophobia. On investigation, it was noticed that during a portion of each morning glaring rays of light were reflected from the brass signs and white awnings of a store two stories below on the opposite side of the street. The substitution of an opaque shade for the light transparent curtain which had been used merely to exclude the vision of passers-by, quickly cured what threatened to be a serious affliction. The operating chair was at a later date moved to a room of smaller dimensions, and it was found that a strong reflected light was projected on the ceiling and on the walls that approached rather close to the chair. This was caused by large white awnings, and the light color of the opposite building. Tearing down the partition relieved a part of the difficulty, but the ceiling and the rear of the room were still flooded with light, and when an attempt was made to relax the muscles of accommodation of the eye, by occasionally looking away from the work, this end was baffled by the useless flood of light in all parts of the room. A secondary curtain was then resorted to, suspended from the ceiling and hanging just about over the patient's head, and working on a roller. This was operated by a stick and hook, and could be brought into use at any moment without interfering with the operating light. Thus was secured a grateful relief to needlessly overtaxed eyes. Short portieres, worked by rings, and cords from the sides, might suit the fancy of some better, and become an ornament to the room; or some permanent drapery—always opaque—might be placed in position.

Ohio Journal.

MASTICATING.

If we say we know how to masticate properly, we sin against light and knowledge. We had better say we do not know. I have often ask dentists how much they urge their patients to masticate properly? Some of them say they never speak to their patients about it, and very rarely have I heard one say that he gave any special information or urged his patients to masticate thoroughly. It is not only the mastication, but the thorough insalivation, that is required. Those persons who masticate their food most thoroughly have the best teeth. They have the least dyspepsia and the best nourished tissues in the body all through, and are better able to withstand all attacks of disease than those who do not masticate thoroughly. I know from observation that the majority do not masticate their food in anything like an adequate degree. I have noticed in this village a number of dentists, and I have observed that they take their meals in a few moments' time, the food not being thoroughly masticated nor thoroughly insalivated. I believe if the dentist can impress on his patient the importance and the necessity of thorough mastication, that he has done one of the greatest services for his patient that is within his power. It is better than treating the diseases and conditions which we so frequently meet. It is hygiene of the mouth and the teeth, and it is for the benefit of the entire organization of the patient as well as of the teeth. The mother, the father, the nurse, and anybody in care of a child should notice it as early as three years of age, and teach it to masticate thoroughly and properly. The habit will stay with it through life, and prevent many of the ills and distresses that assail us.

Dr. Taft, in International.

SIGNS OF APPROACHING DISSOLUTION.

Richard H. Wood, M.D., Clio, Mich. : In extreme prostration and debility an involuntary tear presages death; the voluntary tear is a favorable sign.

Dr. J. M. Tracy, Mound City, Mo. : All sounds are graded on a key-board. Ten, twenty or thirty hours before death you may hear a pitch of voice, low and guttural, that you cannot hear at any other time or place. Death has reached the nerve centers and the sick one will die.

E. Erksine, M.D., Rogers City, Mich. : Looking at an object, both eyes of the patient being unnaturally wide open, death will ensue in twenty-four hours ; if only one eye is thus open, death will ensue in a week or two.

Dr. W. S. Tucker, Luther's Stone, Ala. : Rigidity of the radial artery and its admitting of being rolled to and fro half way up the forearm is considered a sure sign of death within forty-eight hours.

From twenty-four to thirty-six hours before death Dr. Epstein, of West Liberty, W. Va., has noticed a slight abrasion of the cornea of one or both eyes, but it must be carefully looked for.

Dr. W. O. Smith, 4809 Baltimore avenue, Philadelphia, observed that when jaundice or hiccough appears on the fifth day of a fever the end is near.

H. L. Stickney, M.D., Newport, N. H. : Steady increase of the pulse up to 160, also emaciation to two-fifths of the usual weight, is considered an almost certain sign of a fatal termination of the disease.

Dr. J. A. Munk, Los Angeles, Cal. : I have observed a peculiar odor of the breath, which is characteristic, and if once noticed can never be forgotten. It is of a sweetish flavor, apt to occur in wasting diseases, particularly in Bright's disease.

J. D. Albright, M.D., in Medical World.

CAPPING PULPS.

Dr. Gordon White, Nashville, Tenn.

The following method has been successfully used for a number of years, the results for the past four years having been carefully noted, during which time more than a hundred pulps have been capped by this method, each carefully watched, and only five failures recorded to date. Two of these were hopeless from the beginning, having given trouble for three months, and were capped at a risk as an experiment. Two others had ached for a short time, but without inflammation. The fifth developed a pulp stone, necessitating removal of the pulp. We are persuaded that, in the field of dental operations, the capping of the dental pulp is as successful, properly performed, as the average dental operation. Gentlemen, capped pulps do live.

My method of capping is as follows: The patient rinses the mouth with as warm water as can be used comfortably, to which is added a few drops of an antiseptic. The cavity is then washed with warm water from the syringe and excavated as usual, wiping

out with a small pledget of cotton saturated with chloroform. Using sterilized scissors and foil pliers, a made cap is cut "from a prescription blank" and dipped in chloroform, which quickly evaporates, leaving the paper of its original stiffness, and sufficiently sterilized. On this cap, with a small pointed sterilized instrument, is placed the smallest particle of chloro-percha to the chloroform, with fifty grains of aristol to the ounce of chloroform. This little plaster is turned over on the point of pulp exposure and gently pressed to position with the smallest piece of spunk, and a few drafts of hot air thrown on the cap, which evaporates the chloroform, leaving the cap sticking to its position. Then thin cement is flowed over it and the filling inserted as desired.

Ohio Dental Journal.

MANUFACTURED GOLD ORE.

An exhibition of the greatest interest to mineralogists and practical miners in relation to the much argued question as to how gold was originally deposited in auriferous quartz will shortly be seen at the Imperial Institute. Mr. J. C. F. Johnson, of Adelaide, who has given great attention to the subject, has lately brought to this country a number of specimens of previously non-gold-bearing stones, in which he has artificially introduced gold interstices, and on the face in such a manner as to defy detection, even by skilled experts. Some of these specimens were shown privately to several distinguished geologists, who expressed great surprise at the remarkable character of the exhibition.

The discovery some years ago that gold could be induced to deposit from its mineral salt to the metallic state on any suitable base, such as iron sulphid, led Mr. Johnson to experiment with various salts of gold, and he has obtained some extraordinary results. He has, for example, found it practicable to produce most natural-looking specimens of auriferous quartz from stone which previously, when assayed, contained no trace of gold. Moreover, the gold which penetrates the stone in a thorough manner, assumes some of the more usual natural forms.

In one specimen shown the gold not only appears on the surface, but penetrates each of the laminations, as was proved by breaking. One needs hardly point out the importance of the experiments in relation to the gold mining industry; for, having found how the much desired metal may have been deposited in its matrix, the knowledge should help to suggest how it may be economically extracted therefrom.

Edinburgh Scotsman.

DENTISTRY AND ITS DIFFICULTIES.

The usual grist of court cases appears in the April dental journals of Great Britain. In the *British Journal of Dental Science* alone the following cases are noted. Mr. Frank Harrison sued for 13 guineas, the price of a set of teeth. Mrs. Kenworthy, the defendant, said she could not wear them, declined to pay and sent them back to the dentist. Plaintiff said she had not worn them long enough to enable the usual irritation (!!) to pass away. The case was referred to disinterested experts. In another case the plaintiff sued Anthony Hodgkinson, dentist, for £5, the value of a set of teeth which she had tried to wear for twelve months, but could not. This case was also referred to experts. In another case Charles Bernard Courtenay Thomas sued George Frederick Passmore for £4 10s for a set of teeth. Mr. Passmore was also defendant in another case brought by Mr. Thomas for the value of a set of teeth. Besides these damage cases, the *British Journal* notices two bankruptcy cases against dentists. Verily our English brethren seem to be a good deal in the courts. In the United States damage cases are so seldom sustained against dentists that prosecutions are comparatively rare. Can it be that in England the dentist is held more strictly to account for improper service?

Western Journal.

 LISTERIN.

Dr. W. C. Barrett.

The more I use listerin the better I like it. I am now prescribing it as a daily wash for the mouth, using it with the brush in full strength in those cases in which there seems an unusual predisposition to decay of the teeth.

I use it almost invariably after any surgical operation in the mouth as an antiseptic wash, 1 part to 10 to 20 parts of water.

In gingivitis, arising from a want of the care of the teeth, I inject it under the gums freely, and prescribe it as a daily mouth wash, using listerin 1 part, to 5 to 10 parts of water.

In the treatment of septic roots of teeth, I have seen the happiest effects from the use of listerin, forcing a pledget of cotton into the pulp cavity, after carrying a few threads of cotton wet with listerin into the root canals, and sealing the whole in the cavity with gutta-percha or wax.

In abscesses, I have frequently injected it with a syringe quite through the fistulous track, with the result of a complete cure by from one to three such treatments.

In diseases of the maxillary sinus, listerin is now my principal reliance. An opening having been secured, it is injected into the cavity by means of a spray syringe, diluting it with from 20 to 30 parts of water.

In pyorrhea, after the surgical treatment and the removal of deposits, I have found nothing better than listerin for daily use with a soft brush, diluting it with equal parts of water.

In pharyngitis, accompanying inflamed condition of the oral cavity, I use it as a spray on the pharyngeal tissues. If the patient be an adult, I frequently use it thus in full strength.

After nearly all protracted operations in the mouth, I offer as a gargle and mouth wash 20 or 30 drops in a half tumbler of water, and find it leaves the mouth in a delightfully cool and pleasant condition, promotes the healthy granulation of lacerated or bruised tissues, and offers a sure preventive to any possible septic infection. So general is its use by me, that a large proportion of my patients leave the office with the pleasant taste of listerin in their mouth. Thus their last impression is one of purity and cleanliness, and of careful attention on the part of their dentist.

FADS AND MICROBES.

Let us get back into the old channels of honesty and common sense. We have for over ten years been chasing the bugs vigorously, and the grand finale is just on us. Still, diphtheria and mad dogs prevail. The bug theory is all right, but we can't afford to climb too high lest we be forcibly reminded of the bright little monkey who sought to obtain a too elevated position. Appendicitis and the operation for it are somewhat on the wane and will soon be relegated to the domains of the past, at least till another generation greets us. Necessarily so, for we of this day and time have all "had our'n cut out, off, or into."

As a matter of fact, this operation is useful, and our only resort in some instances; but the idea of cutting down to the usually innocent little appendix for every pain in the belly is preposterous. This appendix age must necessarily lead to the accidental (?) discovery of some proprietary remedy of prompt and efficient action, and its happy originator will have no trouble in making its uses clear as the noonday sun "to the medical profession only." Now

he pockets the scads and we are ready for the next fad. Why shouldn't it be the uric acid diathesis next engaging our attention? It is but fair that some of our ills be attributed to this source to "kinder even up" and give the bugs a rest. In this connection I would say that in my first practice, near ten years since, I had exaggerated and vague ideas of our friend, the microbe. I could easily trace every ill to the ravages of the little cocci devils, and I never looked for anything but puerperal fever from lying-in women. I am now forced to the conclusion, from my own experience and observation, that some of this germ business is "bosh." However, I want it understood that I believe in the germ theory. I know that the microbes do live, move, and have their being, but I think that they are moderately decent, staying at home some of the time, and not so continually walking the street "seeking whom they may devour." *Med. World.*

TESLA'S DISCOVERIES.

Nikola Tesla, in a communication to the *Electrical Review*, announces two interesting results he has achieved with the X rays.

One of these is that if a sensitive film be placed between two plates, say of magnesium and copper, a true Röntgen radiograph would be obtained after a very long exposure in the dark.

Another wonderful result Tesla has obtained is that, by the use of a new type of fluorescent screen, devised in his laboratory, he has been able to greatly increase the sharpness of the outlines in a shadow on the screen and to actually see the human heart. Regarding this, Tesla says:

"By the use of this apparatus I have been enabled to examine much better than before the body by means of the fluorescent screen. Presently the vertebral column can be seen quite clearly, even in the lower part of the body. I have also clearly noted the outlines of the hip bones. Looking in the region of the heart, I have been able to locate it unmistakably.

"The background appeared much brighter, and this difference in the intensity of the shadow and surrounding has surprised me. The ribs I could now see on a number of occasions quite distinctly, as well as the shoulder bones. Of course, there is no difficulty whatever in observing the bones of all the limbs."

This latter discovery, he thinks, is capable of extensive practical application.

AMERICAN PATENTS.

The report of the Commissioner of Patents which has just been submitted shows that out of a total of 1,544,419 patents issued by the thirty-three leading countries of the world, 562,458, or more than one-third, have been granted by the United States alone.

The significance of this striking showing is elucidated by the added information that during the last twenty-five years Mr. Edison has patented no less than 711 individual inventions, and that in Connecticut one patent is taken out for each thousand of population.

In the restless activity represented by these statistics the people of the United States are easily first among nations, and it is doubtless one secret of their progress. No new discovery in physics can be made anywhere in the world without setting hundreds of Americans at work to apply it practically. This is Mr. Edison's profession. He follows it more systematically than most men can be induced to follow law or divinity or bricklaying or cabinet-making. No sooner is a new discovery announced than he sets to work to see what can be done with it, and in doing so illustrates the American spirit of which his work is typical.

It is said that the French can generalize better, that the German mind is better fitted for scientific analysis and that England has far surpassed us in the production of great thinkers. But Americans are great doers. In their success or their failure, in their virtues and in their faults, they are the most practical people of the world.

World.

VARNISHING CAVITIES.

Dr. W. G. Browne, Atlanta, Ga.

The incompatibility of tooth-substance and the metals we use for filling teeth is a well-recognized fact, and it is always good practice to interpose some substance between the metal and tooth-structure to prevent, as far as possible, any injurious effect from such incompatibility. Gutta-percha, chloro-percha, cement, and varnish, each have their merits, but none seem to have so many points of excellence as a clear resin, such as damson, dissolved in chloroform. It acts as a non-conductor of thermal changes, as well as an insulator against electrical influences. It is not readily

soluble in the fluids of the mouth. Being transparent, no discoloration is shown when used, where enamel walls are thin; in fact, it prevents discoloration of the tooth from oxidation when an amalgam is used which contains metals which oxidize in the mouth. To a limited degree, it may act as a support to frail walls of enamel, especially if the filling be inserted while the varnish is in a plastic state; this refers more especially to amalgam fillings.

In the insertion of large gold fillings it is helpful in starting the filling, holding the first mats or cylinders of gold firmly adherent to the dentin, and makes it almost out of the question for gold fillings to come out if proper attention has been given to the method of applying the varnish and gold in the tooth when commencing the filling.

I do not for a moment advance the idea that we should depend on the varnish to retain the filling, independent of other means, but it will not be found necessary to make deep retaining pits, but only slight undercuts in the most convenient places in the cavity, thus saving the operator valuable time, and no harm can possibly result from its use, while much good must come.

I am satisfied that when the profession realizes the benefit accruing from this method it will be universally adopted.

Southern Journal.

EXCAVATORS VERSUS BURS.

Dr. F. E. Battershell.

Some operators go so far as to depend altogether on the engine in the preparation of cavities for filling. This new habit we think is reprehensible. Excavators remove carious material more rapidly and thoroughly. After buring out a cavity as carefully as can be done, we do not know the precise condition without having examined the walls with an excavator. Such search often reveals a branching cavity sometimes as large or even larger than the first; and always discovers carious material beyond the range of engine drills. The rotating process of drilling is so unlike the sweeping effect of cutting with the excavator, that what is run over with the engine drill is easily turned out and swept away by the excavator. Another valuable point of difference is, that the excavator can always be sharpened and kept sharp, while the bur is becoming progressively duller; consequently when much used, instead of cutting it only rubs. To the many well-known forms,

the office forge has supplied an additional one for our use, which others may find serviceable. This form reaches those indentations under the grinding surface of molars and bicusps so difficult of access. It is shaped like the letter U, one stem of which, slightly curved and continued, represents the handle. Three or four sizes of this instrument, in spoon shape and hoe shape, will enable the operator to do easily what would be very difficult, and often undone, with ordinary forms. Again the engine handpiece, encumbered by the heavy coil, is clumsy beside the free and slender excavator. Therefore the touch of the excavator is much more sensitive, which is a very significant quality when approaching the nerve, or when working frail walls. The excavator ought not to be discarded. It once was young, but is now old; yet it has never fussed, or grumbled, or wobbled, or refused to work when treated respectfully.

The Ohio Dental Journal.

IDIOCY CURED BY SURGERY.

A cure for idiocy is one of the latest achievements of surgical science, which has taken so many giant strides of late years that it may almost be termed one of the wonders of the century. Experiments were made on the skulls of two children who had been idiotic from birth, and the latest accounts are that they are not only surviving the shock of the operation, but are giving promise of a recovery of the mental faculties. It would be more correct to say that they are gaining those faculties, for the idiot from birth has no development until the obstruction on the brain is removed.

This is exactly the process in the present trials. Holes are drilled in the skull of the child, at the top of the head, where the "fontanelle," or "soft spot," is usually located. In the case now under observation these spots had become hardened at birth, and thus the expansion and development of the brain had been arrested. The operation was therefore to make a new or artificial fontanelle. Great care had to be exercised, of course, to avoid injuring the brain, and there lay the main difficulty of the operation. The scalp is drawn anew over the apertures in the skull thus made, and the little brain is left to cure itself. The children thus operated upon are two years old. It is, of course, a question just when the patients should be subjected to the experiment, and the age of two has been chosen as the starting point. It has been considered probable that at this age the child, if it should

recover its health and gain intelligence, will be scarcely behind other children of its own age a dozen years later. By that time assisted nature would have caught up with itself, as it were. There may be some question in the minds of ultra-sensitive people as to whether it is right for surgeons to experiment in this way on helpless children by performing operations that may cause death. Yet there will probably be no general outcry against such an effort. In some sense death is preferable to life-long idiocy. Few parents would be likely to object to the experiment on their own unfortunate offspring, if conducted with the care which should attend all such dangerous proceedings.

Washington Star.

MEN THAT SHOULD NOT BE TOLERATED IN THE DENTAL PROFESSION.

The man who is never tired of repeating to everybody, and at all hours of the day, that he has been practicing dentistry for forty years.

The code-of-ethics man who believes that all advertising dentists should be hanged and quartered.

The paper-reading fiend that on every available occasion comes up with a paper bristling with scientific terms and with all the longest words we have in the English language, yet in substance says nothing that all his hearers haven't forgotten before they left the dental college.

The man who discusses such papers with the sole object of seeing his name in print.

The dental society men who mutually admire and soft-soap each other at every meeting or convention. I would suggest that these men found a dental mutual admiration society, and relieve us from the suffering of having to read so much trash in the dental journals.

The tortuous nerve-canal perfect-filling crank.

The man whose papers have been written by somebody else and are produced as his own.

The man who cries down bridge-work because he doesn't know how to do it.

The man who claims that no dentist should undertake to perform any dental operation till he can do it in the most approved manner. This reminds me of the old woman who wouldn't allow her daughter to go bathing till she had learned how to swim.

Francis Eschauzier, in Southern Dental Journal.

PRACTICAL POINTS.

By Mrs. J. M. Walker, Bay St. Louis, Mississippi.

Root Canal Filling.—With the rubber-dam on, dry the cavity thoroughly with hot air-syringe, continuing the blast till the patient complains of the heat. Then insert a cone of Gilbert's temporary stopping, which has been dipped in chloro-percha, and force up in the heated canal. This material is less liable to change its shape, either by shrinkage or expansion, than chloro-percha or gutta-percha, and softens at much lower temperature.

R. Ottolengui, in Cosmos.

Obtunding Sensitive Dentine.—Apply a saturated solution of potassium carbonate in glycerin. Repeat as necessary.

M. W. Leokswicz, in Southern Journal.

Treatment of Abscess.—The injection of pure boiling water through the suppurative tract (with the same care in protecting the patient as in the use of escharotics), aided by the mechanical effect produced by the force of the syringe-injection, has proven more satisfactory than any of the chemical solutions I formerly used.

W. T. McLean, in Items of Interest.

For Separating Teeth.—I use a little piece of sea-tangle tent, wedged tightly in the cavity or between the teeth. It is much nicer than rubber and does not produce nearly so much soreness of the teeth.

H. H. Gantz.

A New Treatment in Alveolaris.—In experiments at the Johns Hopkins University, pus cultures on glass slabs, when brought in contact with silver disks, became at once innocuous. This has suggested the idea of banding badly affected roots with narrow bands of pure silver, driven well down under the free margins of the gums—the bands fitting snugly and cemented firmly. Results have been uniformly good, the flow of pus being stopped in incredibly short time, even when the bands were made of 20k. gold alloyed with silver only.

C. H. Rosenthal, in Register.

Formalin in Root Canals.—The aqueous solution of the gas formaldehyde is superior to all other agents thus far employed exclusively for the purpose of embalming pulp *débris*.

J. S. Cassidy, in Cosmos.

Crowning Badly Decayed Molars.—When decay has almost, if not quite, reached the bifurcation of molar roots, complete the separation with fissure disk, and band-and-crown each root individually, soldering the crowns together at the grinding surface.

In no case would I consider it good practice to make one band encompass the detached roots, as it is impossible to secure the requisite steadiness necessary to a successful operation.

W. Mitchell, D.D.S., in Review.

A Local Obtundent.—By placing in the nares a little pledget of cotton saturated in a ten per cent solution of cocain, leaving it for ten minutes, an upper central or lateral incisor may be so benumbed that it can be extracted or excavated with almost no pain. The nerve is anesthetized before it enters the root of the tooth.

Dr. Dawbarn, in International.

For Cementing on Bands and Crowns.—Dry the tooth and paint with shellac varnish before applying the cement. This will be found to give durable adhesion. Should the cement dissolve, the shellac will still protect the tooth and there will be no decay under the band. To retain regulating appliances, add a very little powdered pumice to the varnish.

W. G. Lange, in Cosmos.

Pulp Devitalization.—To the vital fibers remaining in the root canal, apply chromic acid followed by lime water. Then wipe out with eucalyptus or cajuput.

Dr. Williams, in International.

After-pains of Extraction.—A single drop of nitro-glycerin—one per cent solution—in half a glass of cold water is potent and reliable, and lasting in its effects. It is also of marvelous benefit in neuralgias and for the bad headaches following dental operations.

Ed. H. Bowne, in Items of Interest.

Incompatible.—Permanganate of potash and carbolic acid.

Permanganate of potash and salicylic acid.

Permanganate of potash and oils.

Permanganate of potash and soap.

Permanganate of potash and glycerin.

* * * *

Gutta-percha and Oil of Cajuput.—In the use of gutta-percha for filling roots, use the oil of cajuput freely ; for setting crowns, use it moderately ; for filling cavities, use it very sparingly.

W. H. Trueman, in Cosmos.

To Reduce Pulp Inflammation.—Place in the cavity, on a loose pledget of cotton, bicarbonate of soda, and saturate the surrounding parts with chloric ether. Leave in place from a half hour to a day, according to extent of inflammation. After this there is less liability of pain from the application of arsenic, and the application will be more effective.

Dr. Williams, in International.

An Artistic Crown.—Fit the band to the root and cut it down till it just clears the opposing teeth. Contour to suit, place on the root, fill up with wax and take an impression in plaster of

that side of the arch, also of the same portion of the opposing jaw. Mount the casts on an articulator and curve up the surface of the crown—preferably in pink paraffine and wax—to a perfect articulation with the opposing teeth. Make fusible metal dies and strike up the cap in pure gold of from 33 to 35 gage. The cap should telescope slightly over the band. * * * *

A Cheap Hydrogen-gas Flash Lamp.—Perforate the tightly fitting cork of a two-dram bottle to admit, with a very close fit, an ordinary glass medicine dropper of which the taper portion has been bent at right angles and the orifice made very small by heating in Bunsen burner till it contracts a little.

In the bottle put a piece of granulated zinc the size of a pea and a little less than a dram of hydrochloric acid. Hydrogen gas will be evolved which, if ignited, will burn with intense heat as it issues from the tube. A fresh charge is required each time that it is brought into use.

W. S. Elliott, Items of Interest.

Pulp Capping.—If a freshly exposed pulp, wash out the cavity with bichlorid of mercury $\frac{1}{2000}$. Apply a mixture of very finely powdered iodoform or salol, mixed with lanolin, over which apply a plate of mica. Fill over with oxichlorid or oxiphosphate zinc.

Hagenschmidt, Cosmos.

An All Porcelain Bicuspid Crown.—The English tube-tooth, with a strong post and a burnished cap of platinum, secured with cement, makes a first-class common-sense operation. You can grind all the surfaces if necessary, and if a crown is broken it is easily replaced.

W. A. Cummings, Ohio Jour.

Arresting Hemorrhage After Tooth Extraction.—Antipyrin in powder, added to the alcoholic solution of tannin, forms a sticky, gummy mass which, if applied on a bit of sponge, will promptly arrest hemorrhage. It is remarkably adhesive.

Dr. R. Park, Southern Jour.

Protecting Cement Fillings.—Cover the surface of the filling with rosin and paraffin, equal parts.

The density of the surface is increased 100 per cent over that of the body of the filling, making a surface that will resist the force of mastication.

Dr. J. J. Ginsli, Pacific Stomatological.

Immediate Root Canal Filling.—After removal of contents and thorough cleansing, wash out with a solution of permanganate of potassium or carbolic acid, or peroxid of hydrogen, followed by bichlorid of mercury $\frac{1}{5000}$, or chloroform. Fill immediately with iodoformed gutta-percha.

Dr. Oscar Amsedo, Cosmos.

Local Anesthetic.—The following formula has been found safe and efficacious—used repeatedly without casualty or collapse; no sloughing or inflammation :

- R. Sulf. atrop.gr. $\frac{1}{2}$.
 Sulf. strophanthin.....gr. $\frac{1}{3}$.
 Acid carb. (crys.).....gr. v.
 Hydrochl. cocain.....gr. xx.
 Glycerin (pure).....fl. ʒss.
 Aq., pure, *ad*.....ʒij.
 Sig.—From four to six drops hypodermically.

A. C. Hewitt, Register.

Lining Cavity Walls for Amalgam Fillings.—Secondary caries and discoloration under amalgam fillings is prevented by lining the cavity with tinfoil burnished tightly against the walls and allowed to overlap the margins of the cavity. After some days trim away the superfluous tinfoil and the filling will take a high polish. Platinized gold may be employed for cavities which are anterior.

M. S. Mannhardt, Digest.

Root Canal Filling.—Chloro-percha and asbestos fibers form an indestructible root canal filling which can be packed firmly and which can be introduced into canals too fine to receive a gutta-percha cone.

Carl E. Klotz, Ohio Jour.

Pulp Devitalization.—Secure a free exposure of the pulp, to be able to see it, and to allow space for the congested or inflamed pulp. Use the pure crystal arsenic, scraping a very little of it into very fine powder. Twist a piece of cotton, the size of a pin head, on a smooth nerve instrument, so loosely that it can be easily detached. Moisten the cotton with carbolic acid and take up as much of the arsenic as will adhere, and place on the exposed pulp without pressure. Cover with concave metal disk resting on the walls of the cavity. Fill over this with gutta-percha and dismiss for five, six or seven days, when the pulp will be found tough and leathery, so that it can be removed without pain, except where it separates at the foramen.

Frank French, Den. Prac. and Ad.

An English paper states that London oculists are up in arms against the very serious danger to the community caused by the electric light. Several eminent eye doctors are agreed on the point that unless a stop is put to the exposure of uncovered electric lights in the streets and in shops and offices, nearly all the population will become blind.

Transcript.

ITEMS.

MENDING BROKEN PLASTER CASTS.—Nothing equals oxiphosphate for mending broken plaster casts or plaster teeth.

Gordon White.

* * *

Remember thoroughness in preparing a cavity for filling is the first desideratum. A filling to last, must have a cavity perfectly prepared,

G. O. Whittaker.

* * *

Use pieces of pumice-stone instead of charcoal in soldering, and you will have no fumes to cause you headache or hurt your eyes while inspecting your piece during the process.

J. H. Crossland.

* * *

SETTING CROWNS WITH CEMENT.—Before setting the crown, wipe the gum around the root with a solution of perchlorid of iron, which will prevent weeping, protecting the cement till crystallized.

E. L. Custer.

* * *

A HOME-MADE WASTE COTTON HOLDER.—Take a glass bottle with a metal screw top ; cut a hole in the center, and then with mechanical saw cut lines to the circumference, then press the top down.

H. J. Bell, Henry, Ill.

* * *

TO PREVENT THICK, HEAVY RUBBER PLATES FROM BECOMING POROUS IN VULCANIZING.—Dip the rubber in warm water to soften ; roll it in filings of vulcanized rubber and pack as usual. Will vulcanize quicker and will not become porous even in the thickest portions.

W. S. Simonton.

* * *

To prevent dark joints in vulcanite work, grind gum sections to fit closely, and just before removing from articulator, remove every other block, and touch the joints with a little oxiphosphate cement, mixed thin. Replace the blocks and wipe off all surplus cement.

Dental Office and Laboratory.

* * *

With a bay-window I find I can use but one sash ; if I attempt to get the whole flood of light, I get too much cross light, very trying to the eyes. It is better to have a moderate light come from one source than a great light from two or three sources.

Dr. Williams.

The forceps, lancet, burs, excavators, etc., should be scrubbed with tooth-brush and water, sterilizing with carbolated water, then drying. If patients see you do this it will be no disadvantage to you. For keeping instruments bright I use fine emery cloth.

S. G. Wallace.

* * *

CLEANING GREEN-STAIN.—Pyrozone (3 per cent), moistened with pumice, adding one or two drops of phosphoric acid, used for cement fillings, is good for green-stain on teeth. A tumbler of warm water, containing a little carbonate of soda, is good for rinsing the mouth.

S. B. Palmer.

* * *

LIQUID WHEN COLD, SOLID WHEN HOT.—It is said that in Germany a compound named cryostase has been discovered, composed of phenol, camphor, saponine and turpentine, which has the extraordinary property of becoming liquid when its temperature is lowered below the freezing point, and of returning to the solid state on being heated again.

Youth's Companion.

* * *

Any dentist who lowers prices for professional services advertises his own incompetency, and not only lowers the standard for the finer art and higher grade of work in his chosen calling, but prevents dentists of a higher and more worthy class from exerting their better talent and influence for the advancement of their chosen art and science.

Microcosm.

* * *

SIMPLE METHOD OF CLEANING IMPRESSION TRAYS.—Give the impression trays a coating of sweet-oil with a woolen cloth dipped in the oil. Put them in strong soapsuds (made with soap shavings or powder), boil and wipe dry. Now polish with whitening by using a woolen cloth, or fine leather. In this way you can keep your trays bright and clean, and the plaster will not adhere to them.

E. B. Edgers, D.D.S.

* * *

DR. GENESE ON AN EFFICIENT OBTUNDENT.—At the First District Dental Society of New York, Dr. Genese treated and excavated a lower first molar, capping and filling at the same time. The cavity was large and the tooth hypersensitive. Dr. Genese demonstrated the obtundent effect in this case of his preparation of carbolate of cocain, the formula of which is:

R—Cocain..... 4 per cent.
Carbolic acid..... 50 per cent.
Benzoin gum..... 50 per cent.

By the aid of which he excavated the tooth painlessly. *Cosmos.*

I am inclined to think that pressure used on one portion of a large amalgam filling, while packing it, should be very light, as heavy pressure on one part springs or bends the amalgam away from another part where it may pass unobserved. If this theory is correct, the filling will surely be disturbed many times by the occluding tooth striking it before it has hardened.

The removal of the rubber-dam, unless extreme care is exercised, will cause a shifting of some portions of the mass, owing to the tendency of amalgam to bend or spring, and thus unsuspectedly make defective edges.

The chances are that the use of a matrix would be more beneficial for this material than for any other, and it should not be removed till the amalgam is hard.

I. N. Crouse, in Digest.

* * *

SAVED BY ANTITOXIN.—A report on the results of the use of antitoxin for the treatment of diphtheria in the hospitals of London during the year 1895 has recently been published. During the first ten months of 1894, previous to the introduction of antitoxin, 3,042 cases of diphtheria were treated in these hospitals, and 902 of the patients died, the death-rate being 29.6 per cent. During 1895, 3,529 cases were treated and 796 patients died, the death-rate being reduced to 22.5 per cent. This reduction is ascribed to the new treatment, and antitoxin is, accordingly, credited with having saved 250 lives in London last year.

Youth's Companion.

* * *

Requirements necessary to practice dentistry in British Columbia, Canada: To be a graduate of some English Canadian or American college recognized by the American Association of Dental Faculties, and pass a satisfactory examination in the following subjects:

Anatomy, physiology, operative dentistry, dental pathology, therapeutics, chemistry, materia medica, anesthetics, oral surgery, metallurgy, prosthetic dentistry.

In prosthetic dentistry the applicant will be required to do the following work: One full upper denture on rubber; one partial, four teeth on gold; one continuous gum set, not less than four teeth; one porcelain inlay; one gold crown; one bridge, not less than four teeth; one partial rubber, four teeth.

Thirty days' notice, accompanied by fee of \$30, to be sent to the Secretary, A. R. Baker, D.D.S., Victoria, B. C., before the examination will be given. *T. J. Jones, D.D.S., President.*

BACTERIOLOGISTS.—These are useful assistants, but they are tyrannical masters, and the results of a given treatment must, after all, be judged, not in the laboratory, but in the hospital ward and the sick-room. A check must be imposed on garrulous bacteriologists who show a disposition to ride the cock-horse among us. We are grateful to them for such assistance as it may be in their power to render to medical science, but we cannot allow them to dictate to us what conclusions we are to draw from clinical investigation. Bacteriological statements are of inference, but clinical observations are facts; facts, too, which concern us more nearly than the interesting, but too often contradictory, deductions which foreign laboratory men foist on us at the point of the scalpel.

Medical Record.

* * *

THE USE OF PHOSPHORATED OIL IN DENTISTRY.—Phosphorated oil is a sovereign remedy for removing violent pain in periostitis resulting from a carious tooth. The cavity should be cleaned and dried and a few drops placed on cotton packed in the tooth and held in place by gutta-percha. The pain will vanish in a few minutes. It can be kept in the cavity for days and weeks to the greatest comfort of the patient. The action is not well understood, but Dr. Albrecht claims it is due to the fatty degeneration of the tissue brought on by the phosphorus in this form. Phosphorated oil is prepared by dissolving one part of dried phosphorus in about eight parts of heated expressed oil of almonds. The U. S. Pharmacopœia preparation is 1 : 100.

Herman Prinz, Halle, Ger., in Dental Office and Laboratory.

* * *

The Tulare (Cal.) *Register* says: "The School Board of Santa Ana found that for some reason the boys in the public schools were nowhere nearly as proficient in their studies as the girls, and an investigation was instituted to discover the cause, whether the boys were being neglected by their teachers, or whether a lack of discipline was chargeable with the fact that the boys were not doing well. It was found that 90 per cent of the boys between the ages of twelve and fifteen years who attended the public schools smoke cigarets. The investigation did not require to be pushed any further. It is sufficiently well known that cigaret-smoking blunts the intellect as well as undermines the constitution, and if 90 per cent of the Santa Ana boys stay with the habit, 90 per cent of the Santa Ana boys will be failures in life."

EDITORIAL.

ALLOY FILLINGS.

"It is a well-known fact that amalgam fillings do not prevent or arrest further decay."

M. L. Meninhardt, Berlin.

Would it not have been a more truthful statement if the doctor had said, "It is a well-known fact that *some* amalgam fillings do not prevent or arrest further decay?" It has become the fashion with some gold-using dentists to catalogue all amalgams together. If their experience has been with a poor amalgam, they come to speak of all as alike poor; whereas there is as much, perhaps more difference between amalgams as between gold foils. It is too much the habit of dentists to flippantly say, "O, there is little difference with amalgams, I would as soon have the cheapest as any." And with this indifference of their material they become indifferent with their work, and indifferent, too, in maintaining a proper price for their work.

Only the other day a dentist of fairly good standing said: "The fact is, I cannot afford to be too particular with this cheap work, nor can I afford to pay three dollars an ounce for an alloy when I can get a material at half this price good enough for this kind of work. If my patients complain of the results, and want first-class work, I use gold; then if a tooth presents further decay, I can lay the blame on the tooth."

If dentists will do equally good work with a first-class alloy as they do with good gold, they will find the preservation of the tooth quite equal with amalgam as with gold; and the difference in the price between a poor amalgam and the best should be no hindrance to using the best.

The infinite capacity of taking pains is worth more than genius; *with* genius it is worth everything. It is the development of genius, sometimes its very spring, its master, its life; for genius without it is erratic, but with it, it is substantial persevering, and pregnant with light and glow and power.

VENTURE.

In our ventures everything of uncertainty is to be regretted. Yet, if there were no uncertainties there would be no ventures. That man who will take no risk is safe, but it is the safety of inertia, or at best the security of the mere servant, and not the advancement, the wonderful success of the master mind who commands circumstances and overcomes impossibilities. Venture walks in the darkness by faith, feels its way cautiously but boldly, and creates stepping-stones where there is no foundation. He has more in his faith than in his sight. He throws his bread on the water, believing he shall find it increased after many days.

In our ventures we must be willing to take chances, to expect losses, to have defeats; and to have many more of these than of successes. The successful man strews defeats and losses and idols all along his path. If we succeed once while we are failing nine times, we shall be a wonderful success, our defeats will be important parts of our success. In all businesses there are ten—yes, twenty—failures where there is one marked success; and the greatest successes are of those who are spunky enough to repeat their failures till they succeed. The secret of our successes is in learning well the lessons of our failures.

While, therefore, we may not blame too freely those who become discouraged by their failures, and shrink at the uncertainties of a venture, let us learn thoroughly that where there is nothing ventured there is nothing had; and that though we may often have to walk in the dark, let us still walk, learning caution by our difficulty, and courage by the faith that there is light ahead.



Do not think a change of locality is the only way to acquire a good reputation—you will take yourself with you wherever you go. Reputation is usually built on character, and if you will take care of your character, your reputation will generally take care of yourself. It is true, scandal may tempt you to run away; but be sure that scandal can run faster than you can, and will

grow as it runs. But if you face it and live it down, it will finally fade away and die. Scandals have generally some faults to live on; free yourself from these, and even if they do not die out, your very walk and carriage will soon leave them so far behind they can do you no hurt.

If you are given to fretfulness you will always have something to fret about. "What they say," or "what they do," has little affect on a strong character. If we keep our eyes on the goal, losses and troubles and disappointments, instead of depressing the spirits and bending the back, will give us grit and push and manly purpose. If against all odds we press forward, all these light afflictions, which are but for a season, will work out for us a far more and exceeding weight of glory.

It is not so much what we say as what we do that gives us a good reputation. Boasting and promising and loud declarations of what we are going to do, are nothing compared to a few demonstrations of what we are doing. "Talk less and do more" is a good motto for a business man, and especially for a man whose business depends on his skill. People will soon find out what we are doing if we do it.



A PLAIN STATEMENT THAT MAY HELP SOMEBODY.

I am no genius. I have had to plod, and feel in the dark, and blunder and stumble often in getting all I know and have.

Yet I have lived a happy life, and my business has been a success. I wish I could have done better work; but I have managed to be called "the dentist" wherever I did business for the thirty years I was in practice.

How was this?

First. I kept a nice office in a nice section of the city. My most dainty patients would say it was as nice and clean and sweet as a parlor.

Second. I received every one in a generous, genial, gentlemanly way.

Third. I had no objectionable habits, either in the office or out, and tried to be useful everywhere, and in every good cause.

Fourth. I did every thing in the very best manner I could ; and with the least possible pain and inconvenience consistent with thorough work.

Fifth. I was determined to keep up with every improvement. Once a year—sometimes twice—I visited the most expert dentists, not to impose on them or their time, but in a modest way to learn from them what they knew that I did not, if I had to pay for it, and to otherwise improve myself.

Sixth. I attended strictly to business, in a prompt, business-like way.

Seventh. I spent all my leisure hours in study and experimenting.

By these means there was not a year that I did not improve my income, my surroundings and my position in society. I brought up, educated, and settled in life seven children, who are an honor to papa and to society ; and at seventy I am still well and happy, body and soul, with plenty of money for my every need and pleasure, and for many benevolences.



“ Make haste slowly ” is generally good advice. It is a good thing to know how to run when circumstances demand it, but a steady, careful walk is safer, and longer endured. Jumping is a good exercise, but for sure results and substantial progress we can better depend on well measured steps. A steady gait may be monotonous, but at the day’s end more distance will be accomplished than by jerky, interrupted, spasmodic efforts.

So it will be in our business progress. It is every-day faithfulness that makes the sum of final success. Each step is hardly perceptible, but the sum of them shows progress. It is much better to show haste to be thorough, than to make haste to be rich, or to shine, or to climb faster than is safe.

Therefore, “ let patience have her perfect work.” Constant, intelligent, persistent perseverance is sure to win.

There is one reason why I would not like to be a great man. Judging from the little peep I have been permitted to have, I am afraid if I became a great man I should want to crowd up so closely into the center, and become so near-sighted, that I could see no other great men about me. Now I am at a safe distance, so that I can see excellencies in many. And I can even see faults in myself.

When dogs, cats, and other animals, carried long distances on cars and steamers, sometimes confined in bags and baskets, can, without asking any questions, find their way home, and birds traveling thousands of miles come back year after year to the same nests, and carrier pigeons to their dovecotes, we see our dumb animals know some things of which no human being has yet attained. There is a vast field of animal intelligence to be studied, and the more we study the more we shall be filled with wonder and admiration.

Our railroads, our steamboats, and even our manufacturing establishments are beginning to find that they must have young men free from intoxicants for responsible positions. What merchant, whether free from such habits himself or not, wants a clerk whose breath smells of beer, wine, whiskey, or tobacco? What man or woman would prefer a doctor whose breath smells of them, or what congregation would prefer a clergyman to go in and out setting such an example, and thus encouraging the young to use such poisons?

It is very easy to get into the habit of using tobacco and intoxicants, but it is very difficult to get out, for they enslave mind and body, and not a few have been driven to despair by the lash of suffering which follows an attempt to regain freedom. Boys and young men, strive toward a noble manhood; do not become slaves; let intoxicating drinks and tobacco alone. Such poisons are not necessary, they will do you no good. You will enjoy much better health, and, as a rule, will live much longer without than with them, as has been abundantly demonstrated by statistics.

HINTS.

Tender surgeons make bad wounds.

* * *

Of the malady a man fears, he dies.

* * *

Diseases are generally a tax on our pleasures.

* * *

He that sits with his back to a draft, sits with his face to a coffin.

* * *

A good surgeon must have an eagle's eye, a lion's heart, and a lady's hand.

* * *

A physician is one who pours drugs of which he knows little into a body of which he knows less.

* * *

Web to the length of two and one-quarter miles has been drawn from the body of a single spider.

* * *

It is stated that 1,352 trains arrive at and leave Chicago daily, about one-fourth being freight trains.

* * *

Mr. C. S. Tomes says he never has believed in amalgams taking on a spheroid form, and he still less believes it now.

* * *

Oil of cloves is abhorrent to mosquitoes. They will not attack a surface of the body where even its scent is discovered. It is one of the best applications for any insect sting.

* * *

A report comes from London that a bacteriologist, named Czajkowski, has discovered a microbe which may be the cause of measles. He found it in the blood of a patient that was suffering from the disease.

* * *

The Newer Remedies is a reference manual for physicians, dentists, etc., of unusual merit, by Virgil Coblentz, A.M., Ph.D. We think this may be had free from D. O. Haynes & Co., New York. It is well worth the attention of dentists.

* * *

A brand new disease has just been reported from England. They call it scrumpox. It is found among football players. The first outbreak of it occurred among the players at Wellington College. It is a form of skin disease, and the college medical officer names it football impetigo. The disease usually attacks the face, and sometimes the hands.

More than twelve hundred million dollars are paid for tobacco and intoxicants in our country annually, mostly by the laboring population. No wonder the brewers, distillers and saloonists get rich as nabobs, while their patrons are kept poor. Do you help to perpetuate such a state of things?

* * *

INHERITED RABIES.—A peculiar case of rabies has occurred in Cheshire, England. A black retriever last September bit eight cows, and after being killed proved to be mad. The cows showed no sign of madness, but two of them gave birth to calves which undoubtedly died of rabies.

* * *

Dr. Joseph Harvett showed a case of mistaken diagnosis. A large swelling inside the upper arch had been diagnosed by physicians as cancer, but a dental examination showed an undeveloped cuspid, the temporary cuspid being still in place.

* * *

Dr. David Genese treated a fistulous opening at one sitting by fusing a little nitrate of silver on a small ball burnisher, and forcing it through the fistulous opening to the apex of the tooth, thus scarifying the tract completely. The root was then filled. Subsequent investigation showed the fistula completely obliterated.

* * *

A curious fact has been observed in the case of a man who died of delirium tremens. It was ascertained that the skull contained alcoholic vapor. A small opening made in the skull soon after death permits the vapor to escape, when it can be ignited, and burns with a bluish flame.

* * *

Writing of crown and bridge-work in the *Dental Review*, Dr. T. E. Weeks says that while not wishing to be understood as disparaging the necessity of careful preparation of teeth and roots which are to carry crowns, he wishes to emphasize the fact that there are other points of equal importance. His observation has convinced him that only a small part of the irritation and inflammation of the soft tissues about the teeth bearing crowns is caused by bands which don't touch the teeth at every point of their circumference at the gingival margin. Such irritation may come from (1) the edges of the band being rough or improperly beveled; (2) the band being forced so far beneath the free margin of the gums as to encroach on the tissues at some point; (3) improper occlusion, or (4) improper contour and contact of the proximate surfaces.

FOR OUR PATIENTS.

Thou must be true thyself
If thou the truth wouldst teach,
Thy soul must overflow, if thou
Another's soul would reach ;
It needs the overflow of heart
To give the lips full speech.

Think truly, and thy thoughts
Shall the world's famine feed ;
Speak truly, and each word of thine
Shall be a truthful seed ;
Live truly, and thy life shall be
A great and noble creed.

If any little word of mine
May make a life the brighter,
If any little song of mine
May make a heart the lighter ;
God help me speak the little word,
And take my bit of singing,
And drop it in some lonely vale,
And set the echoes ringing.

"ANYTHING TO GET WELL."

By Frances J. Dyer.

How often we hear persons who are partially ill, exclaim, in tones as if they felt themselves abused : " I would do anything to get well ! " Yet, when we come to probe their mode of living, we find that self-gratification in some form, and usually that of the appetite, lies at the root of their ailments. The sufferer seeks change of scene and climate, flees to Nice or Los Angeles, or wherever the fountain of health is supposed to be situated, ignoring the fact that the fundamental change must begin with themselves and not with external conditions.

Perhaps the system cannot receive coffee without detriment. Yet, let the physician prohibit its use and at once the patient cries out : " O doctor ! don't ask me to give up my coffee. Why, I couldn't make a meal without that ? "

Or perhaps an excess of sweets is undermining the constitution. We know a woman who buries her morning cereal with sugar, finishes her breakfast with doughnuts or cakes, uses three times as much sweetening in her beverages as she ought, and as a

consequence is troubled with nervousness, constipation, irritability and sleeplessness. Friends remonstrate in vain. She resents interference and insists that her diet has no connection whatever with her condition. She will take medicine when prescribed by a physician, but she will not deny herself the pleasure of eating sweets.

A business man in Boston is what is called "a high liver." He uses neither wine nor tobacco in any form, but his table is loaded with a variety of the choicest food. He claims that his active life demands a generous diet, and that so long as the viands are properly cooked no harm can result from what—to speak plainly—is refined gluttony. But every few months he has an acute attack of intestinal disorder accompanied by excruciating suffering.

The wise old specialist who is called to attend him, and who charges an enormous fee for his services, prescribes but a modicum of medicine, and limits his patient to a strict diet of dry toast and water for several days. Nature thus has a chance to throw off the superfluity which has deranged the system.

A teacher in the sciences in a private school in New York was demonstrating to her pupils the indigestibility of a toothsome dish, when one of the young ladies said deprecatingly: "O, but it tastes so good. You couldn't ask us to give up eating that."

Such cases could be multiplied indefinitely, but these are sufficient to show that people are willing to do "anything to get well"—or to keep well—except to surrender their pet tastes in food and drink. If they do not break down altogether in health they are only half well, and are forever making some outward application or taking some internal remedy to improve their condition.

The price of health is obedience to natural laws, and that often means the sacrifice of desires which are in danger of enslaving the life with fetters like iron. But law will not compromise. It says: "Eat and drink indiscreetly if you will, give the reign to passion, cheat your lungs out of their quota of fresh air, dress unhygienically; but know that for all these things, sooner or later, you will be brought into judgment."

With the greater intelligence which prevails to-day in respect to dietetics there is need also of developing more power of self-control over the appetites. Lack of this is like the little crevice in the dyke which lets in a devastating flood of physical ills.

AN ADVENTURE IN TOOTHLAND.

Sydney Harrison.

It happened this way. I was working on a six-year molar, trying to find the root canals. Tired I was, perhaps sleepy, but certain it is that I suddenly saw, perched on a corner of the tooth, a little manikin.

"Come inside," he said, "you will be able to see better ; besides, we are having a meeting, and you may be able to give us some information."

"Nothing would give me more pleasure," I replied ; "but I am rather too big."

"Not at all," he answered ; "follow me."

It was not till I began to do so that I discovered I had become as small as he.

On entering, I found myself in what appeared to be a large cave ; huge boulders hung from the sides, which were of beautiful color ; one thing I noticed in particular, namely, that there were numerous roads leading from the cave, all of which seemed to run in much the same direction.

My host led the way down one of these lanes. Just as we turned, I noticed a queer little being sitting on a rough projection ; he was evidently in great distress. I asked my friend who he was and what was the cause of his grief ? "Oh !" he replied, "I've no patience with him, he and his family are always undermining the constitution of our country ; they are a foreign race, and more properly belong to your sphere than ours ; they do not care for our homes, but prefer to live in caves—like that you passed through just now—which causes our King Papilla great pain."

"Why," I asked, "do they prefer the caverns ?"

"Simply greed," he answered, "for they live and work in the hope that their caves may be filled with gold. Mr. Leptothrix, who we have just passed, is sorrowing because, instead of gold, he has found some more common metal in a cave he has spent some years in making."

As we walked, the little manikin told me his name was O Dont O'Blast, and that he belonged to King Papilla's army, a body who were constantly working to protect the king from the attacks of foreign powers. The conversation drifted, and my friend asked me if I was tired ; I had to admit I was, so he suggested we should finish our journey by train. "Ah !" said he,

"I see you are surprised at our having trains, but I venture to think our system of lines are more perfect than yours; we have several going right round the country. There," he said, pointing to the left, "are the lines of Schreger, and close to them are those of Owen."

I could not see the difference between them, but, doubtless to his experienced eye, it existed.

We soon arrived at the palace of King Papilla, who lived in the center of his domain, and I learned he was related to my friend Mr. O'Blast. The king was a sensitive man, and took great interest in his people and country, over which he had a most complete telegraphic communication coming from all parts to a central station in the palace, situate just under those apartments occupied by Mr. O'Blast, and presided over by a Mr. Stellate Cell.

Later on I was taken by Mr. O'Blast to the meeting, where a great debate was taking place as to the owner of some sheaths; one said they belonged to a Mr. Neumann; others, to a Mr. Kolliker, and others, that the former gentleman stole them from the latter, whilst one member doubted if the sheaths existed at all.

After the meeting was over the king wished to see me privately, putting many questions to me.

Was it true, he asked that Mr. Tomes had a father? And, did I think—? Just at that moment a messenger entered with the news that a bottle of arsenic had been found in the palace.

"A plot!" cried the king, and fainted. In the confusion which followed, I left the palace. Just outside I noticed a large placard on which was written in red letters—

"TERRIBLE MASSACRE!

MR. STOCKEN BUTCHERED."

This reminded me that I had to attend a lecture early in the morning, so I hastened back to the apartments of Mr. O'Blast; as I hurried, my foot caught on a hep stone and I was thrown violently down.

When I awoke I was in bed.



TRUTHFUL JOHNNY.—"Johnnie, dear," said his mother, who was trying to inculcate a lesson of industry, "what do you suppose mamma would do for you if you came to her one day and told her that you loved your lessons?"

"Lick me for telling lies," said dear little Johnnie, with the frankness of youth.

NOTICES.

The Southern Dental Association, which was to have been held in Nashville, November next, meets at Asheville, N. C., the 28th of July.

S. W. Foster, Recording Secretary.

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The following are the officers of the Cincinnati Academy of Dentistry:

President, W. T. McLean; Vice-President, A. I. F. Buxbaum; Treasurer, J. F. Clayton; Secretary, Wm. Lockman, Jr.

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The following are the new officers of the Illinois Dental Society:

President, C. R. Taylor, Streator; Vice-President, E. B. David, Aledo; Secretary, Louis Ottoby, Chicago; Treasurer, B. D. Swain, Chicago; Librarian, J. R. Rayburn, Fairbury. The next meeting will be held at Peoria, beginning on the second Tuesday in May, 1897.

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THE DENTISTS OF ENGLAND.—The *Dentists' Register* for this year contains the names of 1,425 licentiates, these constituting 28 per cent of the whole number. Seven hundred and twelve have the London diploma; Dublin comes next with 447; Edinburgh, 144, and Glasgow, 122. One hundred and eighty-three have registered surgical and medical qualifications. Those registered as having been in practice (and without a dental diploma) number 3,452, and there are 31 others who add a surgical qualification.

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WESTERN RESERVE UNIVERSITY DENTAL DEPARTMENT.—The annual commencement of the Dental Department of Western Reserve University, was held in Association Hall, Cleveland, O., May 19th, 1896, at 7.30 P. M.

The principal address was given by Dr. J. M. Buckley, D.D., of New York city. The Adelbert Glee Club provided the music for the occasion. The conferring of degrees by the President, Charles F. Thwing, D.D., was on William George Ebersole, Frank Henry Fagan, Joseph Wilbert George, William Oscar Haldy, Charles Emory Hurd, John William Lewis Thomas, and John Sherman Van Meter, all of Ohio.

The number of matriculates for the session was 53.

This coming session the school will begin in their new and handsome building. The equipment will be enlarged, and better facilities given students than ever before.